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Conspectus of the Ornithology of India, Burma, and the Malayan Peninsula, inclusive of Sindh, Asám, Ceylon, and the Nicobar islands.—By E. BLYTH, Esq.*

Fam. VULTURIDÆ.†

Gidh, H.: *Shukuni*, Beng.: *Gid*, or *Gerni*
(Tickell).

Subfam. VULTURINÆ.

Genus VULTUR, L. (as restricted).

72. V. MONACHUS, L. (Edwards, pl. 290; Tem., *Pl. Col.* 426;
Gould's *B. E.* pl. 2).

SYN. *V. cinereus* et *V. cristatus*, Gmelin.

V. arrianus, Lapeyr.

V. imperialis, Temminck.

V. vulgaris, Daudin.

V. niger, Brehm.

Ægyptius niger, Savigny.

HAB. Mountainous parts of Europe and Asia; Himalaya.

* Continued from p. 342.

† The restricted VULTURIDÆ divide into

1. VULTURINÆ. Comprising the genera *Vultur* and *Otogyps*.

2. GYPINÆ. *Gyps* and *Gyphierax*.

3. SARCORHAMPHINÆ. *Sarcorhamphus*, *Cathartes*, and *Neophron*.

No. XLIII.—NEW SERIES.

3 T

Genus OTOGYPS, G. R. Gray.

73. O. CALVUS (Tem., *Pl. Col.* 2).

SYN. *Vultur calvus*, Scopoli.

V. ponticcrrianus, Daudin.

Mollá Gidh ('Priest Vulture'), H: *Lál-mátá Shukuni*
('Red-headed Vulture'), Beng.

HAB. India generally: common. Tenasserim provinces.

Subfam. GYPINÆ.

Genus GYPS, Savigny.

74. G. FULVUS (Pl. Enl. 426).

SYN. *Vultur fulvus*, Gmelin.

V. persicus, Pallas.

V. vulgaris et *V. percnopterus*, Daudin.

V. albicollis, Linderen.

V. trincalos, Bechstein.

V. indicus apud Jerdon, *Catal.*

V. Kolbei (?), Daudin.

Gyps vulgaris, Savigny.

Mahá deo ('huge giant'), of Mahrattas?

HAB. Mountainous regions of the Old World: Himalaya; not well ascertained as an inhabitant of S. India.

Remark. Ornithologists are much divided in opinion as to whether at least two distinct, though closely affined, species exist in *G. fulvus* and *G. Kolbei* of authors. Dr. A. Smith regards them as the same, as does also Mr. G. R. Gray (in his second and improved edition of the Catalogue of *Raptores* in the British Museum (1848). Still more recently, M. Degland also identifies them, remarking that—"Le *Chasse-fiente* de Levaillant, et le *V. Kolbei* que M. Temminck lui rapporte, mais que le Docteur Rüppell regarde comme une espèce parfaitement distincte, me paraissent appartenir l'une et l'autre au *V. fulvus*;"—the various figures referred to by different authors, according to this naturalist, representing one and the same species in different phases of plumage. On the other hand, M. Alfred Malherbe, in his *Faune Ornithologique de la Sicilie*, p. 20, refers to *G. fulvus* and *G. Kolbei* as "espèces parfaitement distinct (ainsi que l'on peut s'en convaincre en examinant les nombreux sujets donnés au muséum

de Franckfort-sur-Mein, par M. le Docteur Rüppell);”* and M. Temmiuck gives their differences as follows, admitting both into the European fauna. The *Chasse-fiente* (*G. Kolbei*), according to this naturalist, may be distinguished at all ages from the true *Vautour Griffon* (*G. fulvus*) by the shape of the feathers on the wings and under-parts, all of which are rounded at tip, whereas in the *Griffon* the same feathers are long and acuminate; the ruff also is not so long nor so abundant. General colour of the plumage of *G. Kolbei* pale *café-au-lait* or isabelline, often (or according to age) varied or margined with brown more or less deep. The adult is almost wholly of a whitish isabelline; whereas the plumage of the adult *Griffon* is light brown throughout. The crop of the *Chasse-fiente* is of a deep brown, the head and neck covered with close flat down. A fine adult in the Society’s museum from Algeria (received from M. Malherbe) accords with this description of the *Chasse-fiente*; while a young bird from Nepal (in much worn plumage) seems to correspond with the *Griffon*. Dr. Schlegel classes the *Chasse-fiente* as a permanent variety of *G. fulvus*, terming it *Vultur fulvus occidentalis*.

Lastly, Mr. John Cassin, in his notes on the *Vulturidæ* in the collection of the Academy of Natural Sciences of Philadelphia (published in the ‘Proceedings’ of that Academy for 1849, p. 158), remarks finally on the question as to the plurality of species confounded under *G. fulvus*, that—“In the present case the number of specimens” (16!) “is not sufficiently large to warrant a conclusion, but they appear to present uniformly different characters enough to induce the opinion that the following are specifically distinct;—*Gyps fulvus*, (Gm.); *G. Kolbei* (Daud.); *G. indicus*, (Tem.); and *G. tenuirostris*, (Hodgson);” though he afterwards expresses a doubt with regard to the correct identification of the last, and believes the *G. indicus*, (Tem.), to be from Africa! Mr. Jerdon, however, considers that M. Temminck’s plate of his *Vultur indicus* represents the young of *G. bengalensis*, (Gmelin).

75. *G. INDICUS* (Gray and Mitchell, *Ill. Gen. Birds*, pl. 3).

SYN. *Vultur indicus*, Scopoli and Latham.

* Dr. Rüppell himself, however, now considers them to be the same. Vide his *Systematische uebersicht der Vögel Nord-ost Africa’s &c.* (1845), p. 9.

V. tenuiceps et tenuirostris, Hodgson.

HAB. India and Malay countries.

Remark. This is the only Vulture which we have seen from the Malayan peninsula, and it appears to be common in open country throughout India, never (that we have observed) coming into towns or populous neighbourhoods. Like *G. fulvus*, it has 14 tail-feathers, *G. bengalensis* having constantly but 12;* and it is remarkable for the elongation of the ceral portion of the bill, and narrow form of the head, as compared with *G. bengalensis*; the bill and head of *G. fulvus* being intermediate. Its plumage much resembles that of *G. fulvus*; but old birds have merely a few small scattered downy tufts on the black naked neck. The original description of this species by Sonnerat refers to an individual of the second year.

76. *G. BENGALENSIS* (Hardwicke's *Ill. Ind. Zool.*).

SYN. *Vultur bengalensis*, Gmelin (the young).

V. indicus, Tem. (young, apud Jerdon in *epistolâ*).

V. chagoun, Daudin } adult.

V. leuconotus, Gray }

HAB. India generally: Tenasserim provinces. A summer visitant in Afghanistan. Very abundant in populous neighbourhoods, about the outskirts of towns and villages, and occasionally even alighting in the streets, shewing little fear or distrust of the passers-by.† In the open country it is replaced by the preceding species. According to Rüppell, *G. bengalensis* also inhabits Sennaar.

Subfam. SARCORHAMPHINÆ.

Genus NEOPHRON, Savigny.

77. *N. PERCNOPTERUS* (Pl. Enl. 407, 429).

SYN. *Vultur percnopterus*, L. (nec Pallas).

V. leucocephalus et *V. fuscus*, Gmelin.

* From the Parrots and Birds of prey until we come to certain Pigeons, there is no other instance of the number of tail-feathers exceeding twelve.

† On one occasion, when a number of these Vultures had descended in the Society's compound at sight of some flesh, I observed a particularly fine adult, which I directed an attendant to entice by throwing to it morsels of meat nearer and nearer, when it was taken without difficulty by the hand. On seizing it by the wing, the Vulture struggled to escape, but made no attempt at defence. Its companions,

V. ginginianus et *V. albus*, Daudin.

V. meleagris, Pallas.

V. fuscus, Boddaërt.

V. leucocephalus, Brisson.

Pernopterus ægyptiacus, Stephens.

Sūngra, or *Sūndá*, ('sharp-scented,') Sindh (Burnes).

HAB. Warmer regions of Europe, Asia, and Africa: abundant on the plains of India; rare and accidental below the tideway of the rivers in Lower Bengal. A summer visitant in Afghanistan.

Fam. GYPÆTIDÆ.

GENUS GYPÆTOS, Storr.

78. *G. HEMACHALANUS*, Hutton, *J. A. S.* III, 522.

G. barbatus orientalis (?), Schlegel and Pr. Bonap.

Ūrgūl, Masuri (Hutton): *Kajir*, or *Fumai*, Kabul (Burnes). *Golden Eagle* of English residents in the Himalaya.

HAB. Himalaya; Afghanistan.

Remark. There appear to be three closely affined species or races of Lammörgeyers, namely *G. barbatus* of the Alps and higher mountains of S. E. Europe and probably Asia Minor,—*G. meridionalis*, Brehm, of N. Africa and found also on the Pyrenees and in Sardinia,—and the present Asiatic race distinguished by a pectoral band, in general conspicuously developed, and which would appear never to occur in the others. *G. meridionalis* is recognized as a permanent variety of *G. barbatus* by Dr. Schlegel, equivalent to his distinction of *Circus Sykesii* from *Circus cinerascens*; but M. Degland regards it as insufficiently distinguished, it being merely of inferior dimensions and less robust.

however, immediately took the alarm, but without going away, and would not be enticed near enough to allow of a second capture. It is remarkable that during some years these Vultures come much more into the town of Calcutta than in other years; for, in general, they are little seen except about the abattoirs and place of cremation.

Tribe. NOCTURNÆ.*

Fam. STRIGIDÆ.†

Hulu, *Jaghal*, and *Būm* (Pers.), H.; *Hūlūm*, and *Pencha*, B.; *Bassá*, Cingh.

Subfam. BUBONINÆ.

Genus BUBO, Sibbald.‡

79. B. ORIENTALIS (Pl. Col. 174, 229).

SYN. *Strix orientalis*, Horsfield.

S. sumatrana, Raffles.

S. strepitans, Temminck.

B. et Huhua nipalensis, Hodgson.

H. pectoralis, Jerdon.§

Huhua and *Huhu chil*, ('Howler'?, or 'Howling Kite'?),

Nepal (Hodgson): *Ūman*, Malabar (Jerdon).

HAB. S. E. Himalaya; S. India; and Malay countries.

80. B. BENGALENSIS (Gould's 'Century,' pl. 3).

SYN. *Otus bengalensis*, Franklin.

Bubo caveareus et *Urrua cavearea*, Hodgson.

Ghughu, H. (Jerdon).||

HAB. India generally; Afghanistan: but not met with below the tideway of the rivers in Lower Bengal.

* Vide p. 317.

† The Owl family primarily divides into three subfamilies, viz.:—

1. BUBONINÆ. Comprising all the species with *aigrettes*, or the 'Horned Owls,' inclusive of *Nyctea* which has distinct though small *aigrettes*.

2. SURNINÆ. *Athene*, *Syrnium*, and their numerous (and chiefly intermediate) affines.

3. STRIGINÆ. *Phodilus*, *Strix* (as now limited), and *Glaux*.

‡ We have been assured of the existence of BUBO MAXIMUS, Sibbald, in the Himalaya, in addition to *B. bengalensis*, *Ketupa flavipes*, &c., but have seen no specimen. Mr. Gould has seen it from China.

§ *Bubo pectoralis*, (Jerdon), from the Himalaya, is given as a distinct species from *B. orientalis* (v. *nipalensis*) from Java, in Mr. John Cassin's Catalogue of the *Strigidae* in the collection of the Academy of Natural Sciences of Philadelphia (1849).

|| In Bengal, this name is applied to the Doves (*Turtur*). In either case, it derives evidently from the voice. So, also, *Hulu*, H., *U'lula*, latin (whence *Uthulo*), and *Owl* (and *howl*), English, &c. Again, *Ūllū*, H., *Ūllūk*, Beng., for the *Hylobates hoolock*.

81. B. COROMANDER (Hardw. *Ill. Ind. Zool.*,—very bad).

SYN. *Strix coromandra*, Latham.

Urrua umbrata, Blyth.

HAB. India generally.

Genus ASIO, Brisson.

82. A. OTUS (*Pl. Enl.* 29 ; Gould's *B. E.* pl. 39).

SYN. *Strix otus*, L.

S. soloniensis, Gmelin.

S. deminuta, Pallas.

Otus albicollis, Daudin.

O. europæus, Stephens.

O. communis, Lesson.

O. vulgaris, Fleming.

O. sylvestris, arboreus, et *gracilis*, Brehm.

O. Wilsonianus, Lesson. } American.

O. americanus, Bonap. }

HAB. Europe and N. Asia ; Himalaya ; N. Africa ; N. America ?

Remark. The N. American race, regarded as distinct by some authors, is considered by Mr. G. R. Gray to be identical with that of the Old World. Vide Brit. Mus. Catalogue of *Raptores* (1848).

83. O. BRACHYOTUS (*Pl. Enl.* 438 ; Gould's *B. E.* pl. 40).

SYN. *Strix brachyotus*, L.

S. ulula, ægoliu, et *accipitrina*, Pallas.

S. arctica, Sparrman.

S. tripennis, Schrank.

S. palustris, Smies.

S. caspia, Shaw.

S. brachyura, Nilsson.

Otus palustris et *agrarius*, Brehm.

Chotá Ghughu ('small Owl'), H. (Jerdon).

HAB. Europe, Asia, Africa, and N. and S. America. India generally, visiting the plains in winter.

Genus SCOPS, Savigny.

84. SC. ALDROVANDI, Ray (Gould's *B. E.* pl. 41 ; Jerdon's *Ill. Ind. Orn.* pl. 41, chesnut variety).

SYN. *Strix scops*, L.

S. zorca et *giu*, Scopoli.

S. pulchella, Pallas.

S. carniolica, Gmelin.

S. ephialtes, Savigny.

S. lakhamæna (?), Pennant.

Scops europæus, Lesson.

Sc. senegalensis, Swainson.

Sc. capensis, Smith.

Sc. sunia (chesnut variety), and *Sc. pennata* (grey variety), Hodgson.

Sc. malayanus, A. Hay.

Sc. rutilus, Pucheran, *Rev. Zool. &c.*, 1849, p. 299.

Ephialtes spilocephalus (?), Blyth, the young?

Otus (Scops) japonicus, et *O. (Sc.) africanus*, Tem. (apud G. R. Gray).

Chitta gul ('small Owl?'), Telinga (Jerdon): *Chugad kusial*, or *Sunya kusial*, Nepal (Hodgson).

HAB. Europe, Asia, and Africa: in Europe migratory.

Remark. In India, Burma, &c., this species assumes a phase of plumage very commonly, which does not appear to have been ever observed in Europe, and in Africa but rarely;* though frequent also in *Sc. asio* of N. America, and a similar variation (though to a less extent) occurs likewise in *Syrnium aluco*, as well as in some of the *Podargi*. It is characteristic neither of age nor sex. The phase referred to is a bright chesnut-rufous colouring, more or less deep, with the markings sometimes nearly obsolete, except the black tips of the ruff and under-scapularies, and some streaks on the breast and flanks, the belly and lower tail-coverts continuing white with the usual markings. The aigrettes (so far as we have seen) are always rufous in Indian specimens; and there is generally a strong tinge of this hue upon the wings. We continue to doubt whether *Scops spilocephalus*, nobis (*J. A. S.* xv. 8), should not rather be considered a distinct species, even after examination of a second specimen; and an *Ephialtes gymno-*

* *Sc. rutilus*, Pucheran, is from Madagascar; and M. Alfred Malherbe mentions a specimen from Algeria "d'un roux vif rayé de noir et de cendré." *Catal. Rais. d'Ois. de l'Algerie*, p. 8. An Algerian specimen sent by that gentleman to the Society's museum has a considerable admixture of rufous in its colouring.

podus, G. R. Gray, MS., from "India," is retained as distinct in Mr. Gray's second catalogue of the *Raptores* in the British Museum.

85. SC. SUPERCILIARIS? (*Pl. Col.* 21 ?).*

SYN. *Strix superciliaris* (?), Vieillot (vide *Rev. Zool. &c.*, 1849, p. 19).

S. rufescens, Horsfield.

S. Sonneratii (?), Temminck.

Ephialtes sagittata, Cassin.

HAB. Malay peninsula and archipelago. (Not India.)

86. SC. LEMPIJI (*Pl. Col.* 99).

SYN. *Strix lempiji*, Horsfield.

S. noctula, Reinwardt.

Scops javanicus, Lesson.

Sc. lettia, Hodgson.

Sc. lettoides et griseus, Jerdon.

Lempiji, Java (Horsfield); *Tharkavi Chugad*, or *Lattya Kudyal*, Nepal (Hodgson).

HAB. In different varieties, India, China (?), and the Malay countries.

Remark. Specimens of this bird from the sub-Himalayas, Asám, Sylhet, Arakan, and the Tenasserim provinces, are generally (but not always) larger than those from S. India and Ceylon, while examples from the Malay countries are, for the most part, deeply tinged with rufous-brown.

Genus KETUPA, Lesson.

87. K. FLAVIPES.

SYN. *Cultrungis flavipes*, Hodgson.

HAB. Himalaya only (so far as hitherto observed).

88. K. CEYLONENSIS (Hardwicke's *Ill. Ind. Zool.*)

SYN. *Strix ceylonensis*, Latham.

S. Leschenaultii, Temminck.

S. Hardwickii, Gray.

S. dumeticola, Tickell.

Cultrungis nigripes, Hodgson.

* Unfortunately, we have never seen the *Planches Coloriées* of M. Temminck; the only copy in Calcutta being, to us, inaccessible.

Ūlu (generic), H. ; also *Amra ka Ghugu*, H. (Jerdon) :
Hutūm (generic), Beng. ; *Tee-dook*, Arakan (Phayre).

HAB. India generally ; Ceylon ; Asām ; Arakan ; Tenasserim provinces ; very common in Lower Bengal.

89. K. JAVANENSIS, Lesson (Tem., *Pl. Col.* 74).

SYN. *Strix ketupu*, Horsfield.

S. ceylonensis apud Temminck.

Tamba, or *Ketombo Ratanapye* ; *Hanta*, *Pelow*, *Malayan* : *Blo ketupu*, Java.

HAB. Malayan peninsula and archipelago : rare in Arakan.*

Subfam. SURNINÆ.

Genus ATHENE, Boie.

90. ATH. CUCULOIDES (Gould's 'Century,' pl. 4).

SYN. *Noctua cuculoides*, Vigors.

N. auribarbis, Hodgson.

Dzee-gwet, Arakan (Phayre).

HAB. Himalaya ; Asām ; Arakan ; Tenasserim provinces ; China (Chusan).

91. ATH. RADIATA.

SYN. *Strix radiata*, Tickell.

Athene erythropterus, Gould.

Noctua perlincata, Hodgson.

N. cuculoides apud Jerdon, *Catal.*

Ath. undulatus apud Blyth, *J. A. S.* XI, 457.

Jungli Choghud, H. (Jerdon) : *Chotá Kál-panchá* ('small Death-Owl'), Beng. ; *Chugad*, Nepal (Hodgson).

HAB. Most parts of India ; Sub-Himalayan regions : never on the alluvium of the Gangetic delta, but appears immediately this is quitted in a westerly direction.

92. ATH. MALABARICA, Blyth, *J. A. S.* XV, 280.

SYN. *Ath. castanoptera* apud Jerdon, *Supp.*

HAB. Malabar.

* Mr. Cassin gives "India" as the locality for a specimen of this bird : but we have never heard of its occurrence on the western side of the Bay of Bengal, and know but of one instance of its being obtained so high as in Arakan.

93. *ATH. CASTANOTUS*, Blyth, Museum Catalogue.SYN. *Ath. castanoptera* apud Blyth, *J. A. S.* XV, 280.*Pancha Bassá* ('small Owl'), Cingh.

HAB. Ceylon (where common).*

94. *ATH. BRODIEI*.SYN. *Noctua Brodiei*, Burton.*N. tubiger* et *Athene badia*, Hodgson.

HAB. Himalaya.

95. *ATH. BRAMA* (*Pl. Col.* 68).SYN. *Strix brama*, Temminck.*Noctua indica*, Franklin.*N. tarayensis*, Hodgson.*Káturiá Pencha*, ('wood-Owl,' *i. e.* that hides in cavities of wood), Beng.; *Khukhusat*, Upper Hindustan; *Chugad*, or *Choghud*, H.; *Pungla*, Malratta.

HAB. India generally to foot of Himalaya; Asám; Sylhet; extremely common in Lower Bengal: Persia (as about Erzeroum).†

Genus *NINOX*, Hodgson.96. *N. SCUTELLATUS* (*Pl. Col.* 289).SYN. *Strix scutellata*, Raffles.*S. hirsuta*, Temminck.*S. lugubris*, Tickell.*Ninox nipalensis*, Hodgson.*Athene malayensis*, Eyton.*Kúl Pencha* ('Death-Owl'), Bengal: *Choghud Besra* ('Hawk Owl'), H. (Jerdon): *Kheng-boop*, Arakan (Phayre): *Raja Wali*, Malayan.

HAB. India generally; Ceylon; Burmese and Malay countries:

* The Malayan *Ath. castanoptera*, (Horsfield, v. *spadicea*, Reinwardt), is mentioned as an inhabitant of the Tenasserim provinces by Dr. Helfer, and he is probably correct; but as Nos. 91, 92, and 93, are nearly affined to *Ath. castanoptera*, we must consider the Tenasserim species as needing satisfactory determination.

† *ATH. PSILODACTYLA*, (L., apud Boie), v. *Strix noctua*, Retzius, *S. nudipes*, Nilsson, *S. passerina* apud Latham and Temminck, *Ath. bactrianus*, Blyth, *J. A. S.* XVI, 776, &c., inhabits middle Asia, as Afghanistan and Tibet, but does not appear to have been observed in the Himalaya. *Strix persica*, Vieillot, is probably a variety. Vide *Rev. Zool. &c.* 1849, p. 18.

not rare in Lower Bengal. Madagascar (Dr. A. Smith, *Afr. Zool.*, p. 163).

Genus SYRNIUM, Savigny.

97. S. INDRANI (Gray's *Ill. Gen. Birds*, pl. 14).

SYN. *Strix indranee*, Sykes.

Ulula? et *Bulaca newarensis*, Hodgson.

Bulaca monticola, Jerdon.

Newar, Nepal (Hodgson); *Loco Bassa* ('large Owl'),
Cingh. (Layard).

HAB. Mountainous parts of India generally; Ceylon; Tenasserim provinces; Malayan peninsula.

Remark. We are strongly inclined to suspect that there exist two races of this bird, one of larger size peculiar to the Himalaya, the other alike in Central and S. India, Ceylon, and the Malayan peninsula.

98. S. SELOPUTO (Tem., *Pl. Col.* 230).

SYN. *Strix seloputo*, Horsfield.

S. pagodarum, Temminck.

HAB. Tenasserim provinces; Nicobar islands; Malayan peninsula and archipelago.

99. S. SINENSE? (Hardw., *Ill. Ind. Zool.*)

SYN. *Strix sinensis* (?), Latham.

S. orientalis, Shaw.

Syrnium ocellatum, Lesson.

HAB. Most parts of India, to foot of Himalaya: not Lower Bengal (at least below the tideway of the rivers). China?

100. S. ALUCO? (Himalayan variety).

SYN. *Strix aluco* (?) et *S. stridula* (?), Gmelin, &c. &c.

Syrnium nivicolium, Hodgson.

HAB. Himalaya: Europe; N. Africa; Asia Minor (Strickland); Japan (Temminck).

Remark. On comparison of numerous specimens both from Europe and different parts of the Himalaya, and varying much in plumage from both regions, we can no longer regard them as referable to more than one variable species, although Himalayan examples may generally be distinguished by their darker hue, and the usually greater development of the transverse markings of the plumage.

Subfam. STRIGINÆ.

Genus PHODILUS, Is. Geoffroy.

101. PH. BADIUS (Horsfield's
- Zool. Res. in Java*
- , pl.).

SYN. *Strix badia*, Horsfield.*Wowo-wiwi*, or *Kalong-wiwi*, Java.

HAB. Nepal; Sikim; Asám; Arakan; Tenasserim provinces; Malayan peninsula and archipelago.

Genus STRIX, L. (as restricted).

102. STR. JAVANICA, de Wormb (Gray's
- Ill. Gen. Birds*
- , pl. 15).

SYN. *Str. flammea* of India and the Malay countries, auctorum.

HAB. S. E. Asia and its archipelago. Very common throughout India.

Remark. This species is distinguished from *Str. flammea*, L., by its larger size and especially by its more robust feet and toes.

Genus GLAUX, Blyth.

103. GL. CANDIDA (Jerdon's
- Ill. Ind. Orn.*
- pl. 30).

SYN. *Strix longimembris*, Jerdon.

HAB. Plains of India; common: very rare on the mud-soil of Lower Bengal.

NOTE. Since the conspectus of Indian FALCONIDÆ was published, the author has received several standard works from Europe, among which are the valuable publications of Dr. Rüppell, the 'Manuel d'Ornithologie' of M. Temminck (ed. 1840), and the more recent Manual of European Ornithology of M. Degland. The following remarks occur on reference to these and other works.

FALCO LANARIUS, Schlegel, apud Degland, is by both of these authors identified with *F. Fieldeggii*, Schlegel, the African species which Mr. Strickland considers to be the same as *F. biarmicus* v. *peregrinoides*, &c. &c. (vide p. 319); and is not therefore the Indian *F. JUGGUR* (our No. 17), the adult and young of which have been figured by this name in Gould's 'Birds of Asia.' Dr. Rüppell, in his list of the *Falconidæ* of N. E. Africa (1845),* retains as separate species *F. peregrinoides*, Tem., and *F. biarmicus*, Tem., referring the latter to the subdivision *Tinnunculus*, while he assigns *F. chicquera* to *Falco*;†

* 'Systematische Uebersicht der Vögel Nord-ost Afrikas,' &c., p. 11.

† Dr. Rüppell unites *Hypotriorchis* and *Tinnunculus*, as indicated by his plac-

and it is remarkable that he does not include *Hypotriorchis subbuteo* in the list, though a migratory bird in Europe, and mentioned by Dr. A. Smith to occur at the Cape of Good Hope.

No. 19. There is a *FALCO PUNICUS*, Levaillant, "Exploration Scientifique de l'Algérie, Oiseaux, pl. 1, 1847" (as cited by Mons. A. Malherbe), which may perhaps be *F. peregrinator*. Dr. Hartlaub is disposed to think it a local variety of *F. peregrinus*.*

No. 42. As it seems doubtful whether No. 41 is not the true *ACCIPITER VIRGATUS*, (Tem.), of the Malay countries, a note of doubt should be placed after this habitat as assigned to No. 42.

No. 61. As far as can be judged from Dr. Rüppell's figure of *BUTEO RUFINUS*, this certainly would not seem to represent the common Indian Buzzard; but we may suppose that Mr. G. R. Gray has good authority for the identification, although it does not appear from his last catalogue of the British Museum *Raptores*, that there is an African specimen of this bird in the national collection.

No. 71. We can find nothing in the descriptions of *MILVUS ATER* by M. Degland and others, which does not apply to the Indian *M. gorinda*, and bear out Mr. Strickland's opinion of their identity. In *Proc. Zool. Soc.* for 1834 or 1835 (we are necessitated to quote from memory), a recent specimen of *M. ater* shot at Erzeroum or Trebizond is described to have had orange-brown (?) irides, whereas those of the Indian Kite are dark brown.

P. 317. The prior name *BAZA*, Hodgson, should be substituted for *Aviceda*, Swainson, among the *Perninæ*.

Summary View of the Indian RAPTORES, considered in relation to those of other regions. On glancing over the list of Indian raptorial birds, the faunist, familiar with European ornithology, cannot fail to be struck with the number of European species of *DIURNÆ* which likewise inhabit India:—all, in fact, with the exceptions of a few stragglers from Africa or America, the Jer Falcons of the north (and even one of these we have admitted, on what appears to be satisfactory

ing *F. concolor*, Tem., in the latter.—Since writing the above, we have been fortunate in obtaining a live specimen of *F. chicquera*, observation of which inclines us now to regard it as an aberrant *Tinnunculus*,—certainly not a *Hypotriorchis*.

* "Bericht über die Leistungen in der Naturgeschichte der Vögel während des Jahres 1847," p. 14.

native testimony, as an exceedingly rare visitor in the N. W.), and finally *Haliaëtus albicilla*, *Milvus regalis*, *Archibuteo lagopus*, and *Tinnunculus æsalon*. The two last mentioned are known only as winter visitants in S. Britain, but all are more or less seen in N. Africa, and it is remarkable that *Archibuteo lagopus* is likewise met with at the Cape of Good Hope. We believe, too, that all of these are found throughout northern Asia. Certain European species, however, as *Pernis apivora*, are severally replaced in India by closely affined races (perhaps not in all instances distinguishable); and the same is perhaps the case with *Milvus niger*, and would have been averred of *Buteo vulgaris*, only that the latter would itself appear to inhabit a loftier elevation than the common Indian Buzzard on the Himalayas and likewise the Nilgiris. With the NOCTURNÆ, on the contrary, the species appear to be throughout distinct in the two regions, save only *Asio otus* and *A. brachyotus*, and *Scops Aldrovandi* and *Syrnium aluco*; though both of the latter are, in general at least, so far distinct in their plumage, that the Indian race of each may be regarded as a marked variety, or as one of the many instances in which it is not likely that zoologists will ever be agreed about considering as a distinct species or not. Again, of these four, *Asio otus* and the *Syrnium* are confined to the Himalaya, the *Scops* is widely diffused, and *A. brachyotus* is an erratic winter visitor in the plains, by no means rare in Lower Bengal. Of the non-European Indian species of DIURNÆ, a few belong to the high table-lands of central Asia, and are little known on the Indian side of the Himalayan snows: such are *Archibuteo hemiptilopus* and *Buteo aquilinus* and *B. plumipes*. *Falco sacer* appears to be a rare mid-Asian bird, scarcely perhaps more frequent in the Himalaya than in E. Europe. Other species inhabiting Europe and northern Asia which in India would appear to be peculiar to the Himalaya, are *Aquila chrysaëtos*, *Astur palumbarius*, and *Circus cyaneus*; also *Vultur monachus* and *Gyps fulvus*: and among the NOCTURNÆ (as before remarked) *Asio brachyotus* and *Syrnium aluco*, var.* It is remarkable that there is not a single raptorial species common to India and Australia; unless, indeed, the Indian Kite may yet prove to be identical with *Milvus affinis*, Gould, *Falco peregrinator* with *F. melanogenys*, Kaup,

* Perhaps also *Bubo maximus* and *Athene psilodactyla*. *Gypaëtus barbatus*, var., should perhaps be in like manner substituted for *G. himachalanus*.

and *Baza Reinwardtii* with *B. subcristata*, Gould: but many are common to India and the great Indonesian archipelago, and some to both of these regions and to Africa. Our list contains a few which are exclusively Malayan or Indonesian, *e. g.* *Baza Reinwardtii*, *Accipiter nisoides*, *Spizaëtus alboniger*, *Pontoaëtus humilis*, and *Scops superciliaris* (? *v. rufescens*): other Malayan species reach only (so far as known) to the Tenasserim provinces, as *Hierax fringillarius*, *Buteo pygmaeus* (?), and *Syrnium seloputo*; or still further to Arakan, as *Ketupa javaneusis*; or again further to the S. E. Himalaya, as *Phodilus badius*; or the Himalaya generally (visiting the plains of Bengal and Upper India in winter), as *Hypotriorchis severus*. Of species more or less common to all India (in suitable localities) and Indonesia, being moreover peculiar to these regions, may be enumerated *Falco peregrinator* (?), *Pernis cristata*, *Astur trivirgatus*, *Accipiter virgatus* (? *besra*), *Micronisus badius*,* *Spizaëtus cirratus*, var., *Ictinaëtus malaiensis*, *Poliornis teesa*,† *Pontoaëtus ictinaëtus*, *Haliaëtus Maciei* (?), *Haliaastur indus*, and *Milvus gorinda* (?); also *Otogyps calvus* (?) and *Gyps indicus*: and among the NOCTURNÆ, *Bubo orientalis*, *Scops lempiji*, *Syrnium indrani*, and *Strix javanica*. Others, again, are common to those two regions and to Africa, as *Elanus melanopterus*, *Hæmatornis cheela* (*bacha*?), *Blagrus leucogaster*, *Gyps bengalensis*, and *Ninox scutellatus* (Madagascar); or to India and Africa exclusive of Indonesia (?), as *Tinnuunculus chicquera*, *Aquila nævioides*, and *Buteo rufinus* (?); to which may be added (though European rarities), *Circætus gallicus*, *Circus Swainsonii*, and *Hieraëtus pennatus*.

The species of raptorial birds peculiar to India are remarkably numerous, especially among the NOCTURNÆ; those, at least, which at present are only known to inhabit India. Some are very local, as *Athene castanotus* in Ceylon, *Ath. malabaricus* on the Malabar coast, *Ath. Brodiei* and *Ketupa flavipes* in the Himalaya; and of the three remaining species of *Athene*, *Ath. radiata* is also peculiar but more generally diffused, *Ath. brama* extends into Persia, and *Ath. cuculoides* is the only one we have seen from the eastern side of the Bay of Bengal, though in India it is confined to the Himalaya, and it spreads eastward

* Found also in Afghanistan.

* Or this should rather be considered a true Indian species, which extends its range into the Malayan peninsula and probably not much beyond.

so far as Chusan, and southward to the Tenasserim provinces.* Other fine Owls peculiar to India (or nearly so), are *Bubo bengalensis* and *B. coromander*, *Ketupa ceylonensis*, and *Syrnium sinense*, pretty generally diffused, and the *Ketupa* only appearing (so far as we have seen) on the eastern side of the Bay of Bengal; *Glaux candida* is found chiefly in Central India and parts of Upper Bengal. Not one of these species appears to be known in the Malay countries, and we are aware of only *Bubo bengalensis* having been met with in Afghanistan. Of *Syrnium indrani* we have seen three examples from Malacca, whence may be inferred that this Indian species is there not rare, and probably also inhabits some of the islands. Of DIURNÆ, the Himalayan Lam-mérgeyer, if not distinct, is certainly a well marked variety, found also in Afghanistan. Among the *Falconidæ*, so far as we at present know, the following species are peculiar to India. *Falco jaggur*, *Baza lophotes*, *Spizaëtus Kieneri*, *Aquila hastata*; the long-crested race of *Spizaëtus cirratus*; *Accipiter virgatus* (? *besra*); *Circus melanoleucos*, which inhabits all India and Ceylon, with Arakan and the Tenasserim provinces; *Hierax eutolmos*, from Nepal and Asám to Tenasserim; *H. melanoleucos*, Asám; *Spizaëtus nipalensis*, Himalaya and mountains of Ceylon, and perhaps identical with a Japanese species, as suggested by Mr. G. R. Gray. The genus *Hierax* occurs only in the N. E. extremity of India; and the various large fishing Eagles, excepting the Osprey, and perhaps *Blagrus leucogaster*, appear to be little known in S. India.

Several of the non-European *Falconidæ* of India are distinguished by an occipital crest, either rudimental or developed to a considerable length, and which is commonly held erect or nearly so; it is also generally accompanied by a peculiar style of marking of the plumage, exemplified especially by the three gular lines from which *Astur trivirgatus* takes its name.† These crested *Falconidæ* are *Pernis cristata*, *Baza lophotes* and *B. Reinwardtii*, *Astur trivirgatus*, the different *Spizaëti*, and *Hieraëtus pennatus* rudimentally; some of which birds, as the first three and the rest respectively, exhibit little mutual affinity in other particulars.

(To be continued.)

* The Tenasserim *Ath. castanoptera* apud Helfer is in need of further determination.

† *Accipiter virgatus* (? *besra*) and *nisoides* exhibit the same gular lines unaccompanied by an occipital crest.

Additional Notice of the Shou or Tibetan Stag.—By B. H.
HODGSON, Esq.

Since my recent account of the Tibetan Stag was submitted to the Society I have been enabled, through Dr. Campbell's kindness, to examine another specimen consisting of a nearly complete head and horns with the skin on, and inclusive of the skull, which however wants the lower jaw. These are the spoils of a male, and a mature or rather aged male, as is evidenced by the inferior size of the horns, by the partially obliterated sutures of the skull, and by the well-worn canine teeth; and, as this magnificent animal is a tenant of one of the strangest and most interesting regions of the earth, I need make no apology for devoting a few more lines to the description of this second, and in some respects superior, sample of it. The skin is not entirely separated from the skull, nor am I permitted wholly to remove it; but the specimen, as it stands before me, affords satisfactory means of testing the characters, and obtaining most of the dimensions, of both head and skull, and I shall accordingly give a summary notice of both, in completion of my prior paper on the Shou.

The head with its integuments is about 18 inches long, of straight measurement from the snout to the occipital jut, and about 7 inches wide between the salient angles of the brows which project more to the sides than do the cheek bones and consequently exhibit the maximum of breadth. The bridge of the nose inclines to a curve or "Roman" shape. The forehead is broad and flat, seeming to have even a slight dip or depression before the bases of the horns. The muffle, or nude extremity of the nose, is small but distinct, smaller than in any congener I ever saw, but yet unmistakeably developed. It occupies the space between the nostrils, and descends narrowing on the front of the upper lip, till at the margin or aperture of the mouth, the nude moist part of the lip is reduced to less than three quarters of an inch in breadth. The larmiers or suborbital fissures are of medial size, and nude inside as well as round their edges. They are much smaller than in the Rusas, but fully as large as in the Red Deer. The ears are remarkably long ($9\frac{1}{2}$ inches), narrow and pointed, and their copious lining of soft hair, not less than the limited muffle, indicates the extreme coldness of the animal's abode.

The Shou of Tibet Cerrus Affinis



The pelage, like that of every other strictly Himálayan and Tibetan ruminant, has, as is evident from the covering of this head, a harsh, brittle, quill-like character, and probably, on the body of the animal, also a wavy structure; for, on the head this last feature of such pelages is always wanting. The hair of the head is straight and copious, devoid, as usual, of the fine woolly subfleece proper to the body, and on the crown of the forehead it has a length of $3\frac{1}{2}$ inches. The colour of the hair, like its quality, is that so common to the ruminants of Tibet, namely, a purpurescent or embrowned slaty blue passing into paler or grey slaty on the less coloured parts, and terminated externally or tipt with fawn or luteous buff passing into canescent fawn. The orbits and lining of the ears are nearly or quite white, and the lips show a ruddy ochereous tinge void of any dark marks.

The skull, which is $17\frac{1}{2}$ inches long to the jut of the occiput and $6\frac{1}{2}$ inches wide between the outer angles of the orbits (in rectilinear measurements), has the frontals broad, flat and a little hollow before the bases of the horns; the orbits salient and extending laterally beyond the zygomatic arches; the nasals compressed and somewhat arched lengthwise; the cavities for holding the larmiers large and perforate, but less so than in the Rusas; the horn-pedestals low and thick; and, lastly, the occipital plane wide in proportion to its height, and oblate hemispherical in shape. The horns, of a size greatly inferior to those priorly given, originate remotely from each other below the summit of the frontals, spread very amply in their ascent, and recline a good deal before they begin to ascend. The colour of the horns is brown, and their surface is smooth. There are two basal, one central, and one terminal snags to each beam. The former or basal snags of each beam are proximate and parallel to each other, have an antcal external insertion, and a horizontal direction, with the tips of all four bent uniformly upwards. The two inner ones lean directly over the eyes and side of the face, and the two upper and outer ones run, almost parallel, outside of the former which they somewhat exceed in size.

The central snag is the smallest of all, placed equidistantly from the lower and upper snags, inserted on the outside of the beam, and directed forwards and outwards with the lip reverted, as in the basal snags. The apical snag also starts from the outside of the beam, but has an upward direction and little divergency from the beam, which

is decidedly longer, though not thicker, than this terminal snag. The result is a simple fork instead of a crown of snags; and, this being my third fine specimen so characterised, I have now no doubt that the simply forked summit is normal as before conjectured; and also, that the species is identical with my affinis, the trivial differences therefrom, noticed in the prior sample of the Shou, being no longer forthcoming in this.

The subjoined sketches and measurements complete what I have to report respecting the present sample of this splendid Stag.

Dimensions of horns.

	Feet.	Inch.
Greatest length, along curve,	3	10 $\frac{1}{2}$
Girth just above burr,	0	7 $\frac{3}{4}$
Chord of arc or bend of beam,	1	0 $\frac{1}{2}$
Basal interval between burrs,	0	4 $\frac{1}{2}$
Terminal interval between apical snags,	3	9
Terminal interval between tips of beams,	2	6 $\frac{1}{2}$

Dimensions of skull.

Length, from symp. interm. to jut of occiput, straight, ..	1	5 $\frac{1}{2}$
Length from symp. interm. to fore angle of orbit,	0	10 $\frac{1}{2}$
Thence to jut of occiput,	0	8
Greatest width between postear angles of orbits,	0	6 $\frac{1}{2}$
Length of series of upper molars,	0	4 $\frac{3}{4}$
Interval of foremost molar and the canine,	0	3
Canine to front of jaw or symp. interm.,	0	2 $\frac{1}{8}$
Diameter of orbit,	0	2 $\frac{1}{8}$
Extreme length of nasals,	0	6 $\frac{1}{2}$
Ditto. of frontals and parietals,	0	8 $\frac{1}{2}$
Breadth of occipital plane,	0	5 $\frac{3}{4}$
Depth of ditto,	0	4
Teeth of upper jaw,	16	0

P. S. The present specimen was killed in the district of Chúmbi which is more wooded and less arid than most other districts of Tibet. To the north Chúmbi adjoins Phári and other parts of Ding-cham vel Damsén whence came the priorly described specimen of the Shou. Chúmbi is the basin of the Máchú vel Torsha river which rises from the western flank of Chúmalári.

*Translation of the "Vichitra Nátak" or "Beautiful Epitome,"—a fragment of the Sikh Granth entitled "the Book of the Tenth Pontiff."** By Captain G. SIDDONS, 1st Cavalry.

CHAPTER I.

THERE IS ONE GOD.

Oh good and holy One! by Thy favour I commence this beautiful Epitome of the verbal declarations of the ten pádsnáhs.†

To Thy power I am obedient with my whole heart, and shall complete this work if thou deignest thine assistance.

THE PRAISE OF TIME.‡

Thou dwellest in Heaven and upon earth,
Thou destroyest armies of wickedness,
In war thou art ever victorious,
Ever Superior.

Thy power is not only great, but perfect,
Thy refulgence is incomparable,
Thy brilliancy is illimitable,
Equal to the Sun's.

Thou comfortest all who are virtuous,
Thou correctest every evil precept,
Thou puttest to flight all iniquity :
My hope is in thee.

Noble Creator of the world, all hail !
Who mercifully protectest the good,
Who bestowest thy favours upon me,
To thy second, all hail !

Even one brightness
Ungenerated,
God above all gods,
King above all kings
Incorporeal,

* N. B.—Govind Sing, the last of the Padshahs wrote this Book.

† The ten Pádsnáhs or Gúrus are 1, Nának, 2, Angad, 3, Amaradás, 4, Rámadás, 5, Arjún, 6, Hargovind, 7, Harkishan, 8, Teghbahádúr, 9, Haráh, 10, Govind Sing.

‡ God the Supreme Being, is personified by काल or time.

And everlasting
 Formless and spotless
 Parent of each age.
 Exterminator! I bow to thee.

Without body, unchangeable, eternal, boundless, never aged, peculiar, never infantile, never youthful, neither rich nor poor, invisible, unmarked, without colour, passionless, illimitable, without countenance, nameless, houseless, playing with fierce brilliancy, never hostile, without counterfeit, more devout than all Jogis, essentially pure. Invincible, fearless, desired by all, never-fated, undisguised without commencement, yet infinite, perfect, bearing no enmity, primeval, friendly, filled with abundance, glorious, tranquil, without affection, without deceit, impartial, chaste, amiable and omnipresent. Vast, pure, invincible, ancient, before all that has been and that will be, who knoweth neither sorrow, nor anger, always new, unborn, aiding, well acquainted with all things. Thou knowest of the past, the present and the future, obedience to thee, oh unchangeable One, never infirm. Obedience to thee, thou God of gods, thou King of kings, who desirest power from no one, thou eternal One, greater than all the potentates of the earth! Indescribable, inexhaustible, friendly, sanctified amongst saints, desiring nothing, the chief of every enjoyment.

Sometimes thou art as the principles of truth, of passion or of ignorance. Sometimes thou appearest as a man, sometimes as a woman, sometimes thou art as an angel, at others, as a devil; it often pleaseth thee to assume various forms. Sometimes thou blossomest as a lovely flower, or thou art a bee and goest thy way buzzing; sometimes thou speedest on the swift wings of the wind. How can I tell of thee who art indescribable?

Sometimes as an echo thou reverberatest pleasantly, now as a huntsman thou killest with arrows. Sometimes thou art a stag, which approaches the snare, sometimes thou art more beautiful than the God of Love. No one can tell what form it may please thee to assume, nor where thou residest, nor what disguise thou wilt choose to go about in, none can call thee by thy name. Alas! how can I tell of thee, who art indescribable? Thou, who hast no Father, nor Mother, nor brethren; nor sons, nor grandsons. Thou, who wast never nursed;

without family, kindred, or friends, without a house, without an army, without followers. Powerful over all kings, Lord of all lords.

4

MIGHTY TIME !

In thy left hand is a bow, in thy right a sword exceedingly bright in appearance ; thy teeth are firm set, and innumerable, they devour thousands. Thy kettledrum is for ever sounding, a white canopy is above thy head, thou art ever merry, and thy diadem glistens brightly, thy voice is tremendous, and thy horn resounds like the howlings of the damned amidst the flames at the judgment day.

Time's bell sounds louder, than Heaven's thunder,
The sea, so mighty, hears it and is still ;
His necklace ringing, his anklets' jingling,
Tho' loudly sounding, create no alarm,
How bright his chaplet ! Siva sees it abashed,
It's colours resplendent, perfectly chaste,
And his gold earrings charm all who behold.

Time created all classes of things. Mammillary, oviparous, viviparous, mineral and vegetable. He is the Maker of the world and of every portion of the four quarters ; he made the earth and the ocean. He composed the Védas, the Korán and the Puráṇas. He formed the day and the night, the Sun and the Moon, Angels and Devils, and warriors ; with his iron pen, He marks each man's fate on his forehead. The most powerful succumb to Time !

He has produced many, and exterminated many, and reproduced, but to destroy again. Who knows the extent of his kindness, which thousands have experienced and daily are experiencing ?

Time has fashioned many like Kṛishṇa ; he has created and destroyed several like Ráma ; Mohammads likewise in abundance, who, when their days were numbered, died. How many wise men have passed away ; but Time who conquers all and every thing, remains unvanquished still. Rámas, Kṛishṇas, Vishṇus, all have vanished from the face of the earth, but Time remaineth yet !

The dwellers in heaven, the inhabitants of the moon, have, in their turns, been destroyed by time. Every Sage and every Philosopher must submit to his devouring jaws. From the days of Mándhátá even until now, every prince has been and is subject to Time.

He pardons those who worship him, but condemns the wicked.

His shining scimitar instils terror,
His anklets resounding are heard afar,
His locks are lovely, and he hath four arms ;
Even death crouches beneath his weapons ;
He hath a flaming tongue, and dreadful teeth ;
His shankh,* so noisy, fills the world with dread ;
Dark is his visage, yet with all, at full,
Of beauty, as his attributes are chaste.

The canopy above Time is white and lustrous, and the sun is humbled in comparison with his splendour. He hath large red eyes, whose pupils are like the luminary of day, they gaze upon myriads.

His countenance is so beautiful, that the proud daughters of the gods cannot compare with it. Sometimes he seemeth a warrior, who taketh his bow in his hand, or as a King, who soundeth his loud kettle-drum. When armed, the bravest heroes fly from before him. He handleth his sword like a powerful warrior. He is mighty in battle, and to be feared, nevertheless he is an ocean of mercy,—always kind, always consistent. Kings tremble when they hear thee, the world is thy garment, those who believe in thee will be forgiven. Thou resemblest a black cloud, whose loveliness is perfect, nevertheless thou hast four arms, and when thou holdest the club, the mace, the shankh and the discus, thou art terrible.

Countenance unequal'd
Excelling the God of Love,
Loveliness unrivalled,
Coveted by all mankind,
Forehead like the full moon
Which humbles even Shéo,†
With his snake-like necklace.
Time reproveth the sinful.
Arm'd with a scimitar
He scourgeth evil doers.
He hath a massive club.
And bendeth the pliant bow.

* Conch used by Hindu gods as a war-horn.—ED.

† Shéo (Siva) is represented in Hindu mythology as wearing a snake round his neck.

He soundeth his loud shank,
And his bell'd girdle ringeth.
Oh Lord ! I bow to thee,
Accept my humility.

Thou hast various forms,
And the great gods are alarmed,
Thou art above all Gods,
The Princee of benevolence.
Thou art the First, and Last,
With attributes infinite ;
Sin sees thy flaming sword
And trembling tries to escape.

Time holds the sword and bow,
All foes he putteth to flight,
His person is so bright
That I am fascinated,
His anklets sound loudly
And create a strange noise,
He is bright as lightning,
My love for him is sincere.

The sound from thy anklets is pure, very pure,
Thy face flashes like lightning, like lightning,
Thy voice is of the loudest, the loudest,
Like the cub in the forest—the forest.

Thou art the past, present, future,
And only solace in this iron age.
Thou art present everywhere
With thy bland and delighted countenance.

In thy head are two savage teeth
Which frighten away all thy enemies,
When angry thou seizest a sword,—
Devout and brave men shout forth, Victory !

Thy armlets and thy anklets sound,
And mountains tremble at thy heavy tread,

Thy girdle and thy gong are loud,
Spirits and mortals all marvel at thee.

Thy wheel revolves throughout all space
And none can check, or hasten on, its course.
Thy mandates who can disobey
Amongst the dwellers of the earth, the sea ?

Time's wheel perambulates the whole universe ; who is there that can disobey Him ? To what Fort, however strong, can we flee to escape Him ? Oh Time ! thou dancest perpetually round all.

If Time chooseth to consume you, plan what you please, you cannot avert the stroke. You may wear a thousand armlets, and mutter as many charms, they will be of no use without Time's assistance.

Time destroyeth men who incessantly deal in charms ; men have spent their lives in searching for charms, and at last have found nothing ! have effected nothing !

There are many who hold their noses* when they pray, and adopt other absurd religious customs which are all perfectly useless : no good can result from them.

Madhkítāb was a powerful demon, but he became subservient to Time. There were also Súmb, Nisamb and Anant-bíj, whom Time hath destroyed.

There were the Rájás Prith and Mándhátá, the Lords of the earth, whose chariot wheels traversed the world, also the Rájás Bhoj, Bhim and Bharat who conquered the remainder ; but Time hath subdued them all.

Where are the mighty who proclaimed their orders to the world ? The powerful who wrested the dominion of the earth from the Ch'hettris ? Whose sacrificial rites were pompous and imposing, and whose fame was notorious ? They have all yielded to Time.

How many strong Forts have been taken, how many strongholds destroyed ? Brave men's praises have been sung, and the history of great battles recorded. How insignificant are all compared with one blow from the hand of Time !

In past ages there were mighty Monarchs, who revelled in every

* A common custom amongst the Hindus, as an attitude of prayer.

conceivable enjoyment, until humbled by the decree of Time, they walked bare-footed.

There was one* who had subdued the universe, and forced the Sun and Moon to stand as sentinel at his gate ! There are who have conquered Indra and loosed him again, but their power is nothing compared with the Power of Time.

There have been many Ráms ; they are dead,
And many Krishns who have passed away ;
There have been mighty gods, who have perished ;
Noble intellects too, which have faded ;
Deities, who no longer are immortal ;—
All, all subdued by Time's o'erwhelming pow'r.

Time overcame the potent Nrisinh ;
Who punish'd others, have been punish'd too ;
Even the pious Brahman bends to Time
Who the first Av'tar did annihilate.
Relentless Time, all grandeur hath absorbed,
Yet doth he pardon all who worship him.

There is indeed no avoiding the angry effects of Time, but by serving him. Be you gods, or kings, or nobles, or rich, or poor, there is no hope, but in Him. All creation is subject to the will of all powerful Time. You may perform a thousand ceremonies, and make as many sacrifices, but unless you dedicate yourselves to Time, you have no chance of escaping from his power.

Time is all-powerful, destroying equally the rich and poor. The dwellers in heaven do not escape from Him. Those prosper who believe in the power of Time, they thrive who worship Him. The gambols of Time are innoeent, his countenance is without parallel. Sin sees it and departs.

He hath large red eyes. He forgives sinners. His face is like the full moon. He is merciful to the wicked.

All the dwellers upon earth are subject to Time, who rules Indra, the Sun, and the Moon.

* Rájá Rávan is said to have made the *Sun and Moon* stand still. The Hindus never do any thing by halves, and Joshua's miracle is simple when compared with Rávan's !

The wheels of Time, to whom all bow, roll throughout the universal world. Ráma, Krishṇa, the Sun and the Moon,—all acknowledge the supremacy of Time.

Krishṇa, whom the world even now so lauds, Brahmá, Siva, Jogis, Gods, Devils, celestial musicians, snakes, the four Divisions of the World,—all originated in Time, and are subservient to him. Time alone is independent of every thing.

[*Note*.—Here follow a string of praises, which have already been translated : indeed the *Vichitra Nátak* abounds in repetitions.]

Protect me, who resemble the stubble in the field, there is none that assisteth the poor like unto thee. Oh ! pardon my offences, though I am always erring. Their coffers are never empty, who serve thee. I trust in Time's powerful arm for protection in this Iron age.

In one moment Time destroyed millions of demons, like Sumb and Nirsumb. In an instant he overthrew Tambarlochan and Chand, and Múṇḍa, also Cháma, Baktachen and Saṅkhchúr. So mighty is Time ! I regard none, I care for no one but Time.

Time hath annihilated Múṇḍ, Madhkitab, Múr, Ag, and thousands like unto them ; who scorned to cover their bodies with shields, whom water could not drown, nor fire consume, at the sight of Time's sword, they fled.

In one second Time vanquished Rávan, Mherávan and Kúmbhakaran, also Bárud, Nádh and Akampan, who battling successfully against death, conquering Kúmb and Sakúmb, and devastating the whole world, at length washed their reeking blades in the seven oceans. The most mighty, succumb to Time.

If it were possible to avoid Time, whither wouldst thou fly ? His sword is ever before thee, whither wouldst thou wander ? His sword is ever near thee ! The thing hath not yet been begotten, over which Time hath no controul. Idiot ! if therefore thou canst not escape from Time, wherefore do you not cheerfully fall down and worship Him ?

Many worship Krishṇa and Vishnú, and profoundly venerate Brahmá, Mohammad, and even the ocean, but they have not escaped from Time, their devotion has not profited them a cownie, their sacrifices have gained them nothing. When Time willed it, they died. Why do ye waste your labours, oh ye vain worshippers ? Ye toil

without profit, and they who promise to save you from Time, cannot save themselves. The wrath of Time is like a raging fire, over which the gods you worship are hanging by their heels, and can they prevent your being treated in the same way? Oh fools! ponder on these serious truths, and be ye sure that without the mercy of Time, naught else can avail ye.

Oh thou egregious animal! why dost thou not acknowledge the power of Time, which ruleth the universe?—Time, the Supreme Being, who alone is able to pardon? It were best that ye sin not at all, but if ye must sin, sin for the benefit of others, and putting away all your other faults, fall at Time's feet. How can it avail thee, that thou prostratest thyself before a stone idol?

What avail thy reserve, thy fits of abstraction, thy ornaments, thy paint, shaving the hair of thy head, or plaiting it in thick folds? Listen to me from your innermost hearts, for I tell you the words of truth, unless ye diligently search for Time, the giver of all good things, and humbly worship him, ye shall not find him: circumcision is hateful to him.

What if ye could turn the regions of the earth into paper, and the seven oceans into ink, every tree into a pen, with Sarasvatī to dictate, and Ganesa to write for a million of years, ye could not gainsay the simple fact, that excepting by entire submission to Time, ye cannot get his mercy and pardon, or please him in the least.

CHAPTER II.

How doth God exhibit his merciful Power? By causing dumb people to preach the Scriptures; by enabling cripples to climb mountains; by making blind men see, and deaf men hear!

OH GOD!

A worm like me cannot reveal
Thy might, which thou alone dost know.
Who hath ever seen his sire born?
Who can explain thy mysteries?
Thou createdst thine own greatness!
Which no mortal tongue can describe.
Thou alone knowest thine own mercy,
None can exalt, none lower thee.

Seshnág, he hath a thousand heads
And twice one thousand ready tongues,
With each of which, he sings God's praise,
But hath not told it all, as yet !
God's mercy is too abundant
For mortal man to understand ;
Vain is the task to picture him,
Whose greatness, all must acknowledge.
Assisted by his gentle love,
Most truly, all things I narrate,
And now about myself, I write,
I come from the tribe of Sodi.
Hitherto I have failed to expatiate at length
On subjects which nevertheless interest me
Much ; it is now my intention to be a little
More discursive : so listen all of ye.
When Time first spread himself in space
The Universe was created,
Kálsen was formed, of figure
Indescribable, but lovely.
The second Rájá was Kálkét
And after him Krúr Baras.
The fourth, was call'd Kál Tojár
From whom came the race of mankind.
 He had a thousand eyes
 He had a thousand feet
 He slept upon Sésh Nág,
 Sésh Sáyi thence was named.
Lo ! from one ear he drew some wax
And thence Madhkítá quick was born,
Then from the other he took more,
With which, the giant world was made.
Powerful Time, then Madhkítá slew,
Whose fat, mingling with the ocean
In portions of the sea congealed,
And thus produced was, the earth.
And in those first days, all who were

Virtuous and good, were call'd gods.
 And those, who perform'd bad actions
 Were denominated, devils.
 Were I to tell, of all that happen'd
 My volume would exceed in bulk.
 Enough! there were many Rájás
 From whom sprung celebrated Daksh.
 He reared ten thousand daughters
 Of beauty, not to be surpassed.
 These, by Time's indulgent favor
 Were married all, to Rájás.
 Binatá, Kadrú, Dit, Adit,—
 All four, to Rikki were married
 From whom proceeded Gaḍuḍas,—
 The tribes of snakes, gods, and devils ;
 They also, the sun did produce,
 From whom a numerous offspring came,
 Whose names, were I to detail them,
 Would make my work prodigious.
 The tribe of Rag'h, so by the world call'd,
 From the sun, lead its origin.
 And Aj, was the son of Raghú,
 He was great and cherish'd the earth.
 When, becoming absorb'd in God,
 He gave his kingdom to Dashrath,
 Who also, favoured his people,
 And woo'd, and wedded three Virgins.
 These bore him, Rám, also Bharat,
 Again Latchman, and Shattr Ghan,
 They lived for many years, and when
 Their days were numbered, passed away.
 Sitá had two sons, who were kings,
 And ruled, with wisdom and justice,
 These married two lovely maidens,
 From Madrdésh,* and both were devout ;

* मद्रदेश the ancient name for the Panjáb.

They founded two splendid cities,
One called Kapúr and one Láhor,
Not Lank,* nor e'en Amrávati†
So famed, with either can compare.
Both kings ruled for many a year,
At length, they were caught in Time's net,
And dying, bequeath'd their lands
And virtues, to their progeny,
Whose descendants are numerous,
For four ages they peopled the world.
Among them, were Kálket and Kálrái
Whose progeny is quite countless.
Kálket was very powerful,
And expell'd his gentler brother
Who wander'd till he reach'd Sanand,
Where he married the king's daughter.
From them, proceeded Sodi rái,
And Sodi rái gave origin
To the famous Race of Sodi,
Which God loves, and hath sanctified.
Their kings have always wisely ruled,
And conquer'd kings of ev'ry land.
Their creed is known, throughout the world ;
A canopy covers their heads.
They have made large sacrifices
And have subdued the kings of empires.
They have sacrificed houses,
And had atonement for their sins.
At length, the seeds of strife were sown
Amongst them, which no one could uproot,
Arm'd bands collected every where,
The most disastrous war commenced,
Horrid strife, for lands and wealth,
Strife, for the riches of the dead !

* Ceylon.

† Heaven of Indra.

Folly, disputes and sinful pride,
 Lust and anger, made the world corrupt.
 Wealth ! money ! all cried out for wealth !
 The very world became its slave !
 The wealthy alone were worship'd,
 Gold was the Idol men revered.

Mankind ceased to venerate *the* God, they harboured animosities, and pursued Folly and Strife with avidity : they were dead to every thing but wickedness.

Thus I conclude the 2nd Chapter, which contains the history of my race.

(*To be continued.*)

Analysis of the B ngali Poem Ráj Málá, or Chronicles of Tripurá.
 By the Rev. JAMES LONG.

Dr. Wise of Dacca having presented to the Asiatic Society the Ráj Málá, an ancient Historical poem in Bengali verse, I was requested by the Society to report on it, and also to furnish them with an analysis of the original for the Journal, in order to enable the members to judge of the subject of the poem itself. I hope one day to see the Bengali printed, as though interspersed with a variety of legends and myths, it gives us a picture of the state of Hindu society and customs in a country little known to Europeans,—Tripurá, the Highlands of Bengal, the last country that yielded to the tide of Moslem invasion, and which in its mountain fastnesses retained for so long a period the Hindu traditions unmixed with views that might stream in from other countries. It had been long the chosen abode of Sivism, the aboriginal religion having been supplanted by the latter system, as is indicated by the myth which represents Siva destroying the Asura Tripurá, and Tripurá as being the favourite residence of Siva, a *pi hasth n*—the right leg of Sati having fallen there. The Br hman s exercised as arbitrary sway over the minds of the hill chieftains as ever did Druid on the customs of our Celtic ancestors.

“The embroidery of imagination does not entirely conceal the ground-work of truth.” The remark made by Richardson, the compiler of the Persian Dictionary, is fully applicable to such works as the Ráj Málá, the

Raghu Vaṅsa, &c. “The Sháh Námá, like Homer, when stript of the machinery of supernatural beings, contains much of true history, and a most undoubted picture of the superstition and manners of the times.” In all the great historians of antiquity we have facts mixed up with fable, yet we do not reject Roman History notwithstanding the fictions connected with its early history, nor European history on account of the tales told of Charlemagne under the name of Turpin,—why should we not make the same concession with respect to the events connected with Ráma Chandra, the Peter the Great of his day? Ráma’s invasion of the South is as firmly established a point as the Norman conquest, and his invasion of Ceylon is as authentic a fact as the siege of Troy. In truth the career of Ráma was one of far greater interest and importance to masses of mankind, than the foray of petty Grecian kings, though dressed up by the magic pen of Homer.

The professedly historical documents of the Hindus are few and meagre. It is chiefly by the clues given in such works as the Rámáyana and Mahábhárata, where fact is blended with fable, as in the novels and poems of Sir W. Scott, that we can grope our way. Yet important data may be elicited even from such writings as these by careful investigation, as was effected by Todd in his Rájasthán, who obtained such useful materials from the poems of Chand and other bards of Rájputaná. Lassen in his valuable work, the *Indische Alterthumskunde*, has poured a flood of light on the ancient history and geography of India, derived from the references in the Mahábhárata; he has by a skilful analysis extracted, from a large mass of beautiful and interesting poetry, references which will be of great use to the historians of India, and has thus shown that Sanskrita poetry is not that aggregate of absurd and monstrous fiction that some would consider it to be; for instance the Rámáyana has for its basis the expedition of Ráma to the South, who was the pioneer of civilization to the barbarous aborigines of the Dekhan. Like Peter the Great of Russia, he was obliged to use rough means with a rude people, in order to raise them to a higher status in society; Ráma played as important and useful a part on the world’s theatre as either Æneas or Agamemnon, the familiar heroes of College reading.

The *Ráj Málá* or annals of Tripurá were compiled by Bráhmaṇs or the *pradhán mantris* of the Court of Tripurá. Though many of the Rájás despised writing as being what they considered a mere mecha-

nical art, yet like the Chinese emperors they provided for a record of the history of their empire by employing a bard in their Court, and though he bestowed lavish encomiums on the characters of the reigning monarch, yet he affords us information occasionally on various interesting points. Thus for instance the women exhibit a very different character from those of Bengal generally, and in daring and moral prowess remind one of the females in Rájputáná or the Máhrátta country, though we have no account of any equalling Ahalyá Báī in benevolence.

The Rájmalá or history of Tripurá comes in opportunely at the present time, when such an anxiety is shewn by *Savans* to throw light on the manners, religion and history of India previous to the Mohamadan invasion, and also from the country described in the poem presenting various points of interest, whether we look at its position, having the Buddhist kingdoms to the South, the Chinese empire in the East, the ancient kingdom of Kámrup in Assam to the North, or the aboriginal tribes of its frontiers. Its mountain fastnesses and lonely jungles enabled its chieftains, like the Welsh of former times, or the Hugonots of the Cevennes, to maintain a spirit of resistance to intruders, and to preserve down to the last century Hindu manners and customs uninfluenced by the control of Moslem propagandism. Its rulers pride themselves on being of the lunar race, and in their descent from the chivalrous Kshetryas of Rájputáná* whose lofty bearing and prowess have been immortalised by the pen of Todd and Chand. While in Bengal the tide of foreign invasion has swept away almost all the ancient Hindu royal lines, the families of Vishnupur and Tripurá have alone remained, though now "in the sere and yellow leaf."

The baleful influence of the Musalmáns on Hindu nationality has in no instance been more destructively exercised than in its having prevented during the Moslem sway all Hindu efforts for the formation of a vernacular literature. Animated by the same recklessness and disregard of consequences which prompted the Norman conqueror to aim at the extirpation of the English language, the Moslem conquerors discouraged the use of every tongue but their favourite Arabic or Persian. This added to the proud disregard in which the *Prákrita*, the dialect of women and Rákshasas, was held by the

* Todd in his "Rájputáná" states, that Tripurá was one of the 84 mercantile tribes of Rájputáná.

Bráhmans, is the cause why we have so few works in Bengali of an ancient date; Kirtibas's translation of the Rámáyana, made two centuries ago, and the works relating to Chaitanya, are almost the only "fragments from the wreck of time" handed down to us.

That Noble Institution Fort William College,—though now shorn of its splendour, through the mercenary utilitarian policy of men who in the pride of Western assumption have frowned on such efforts to cultivate the classic tongues of the East,—fostered a few works treating of the history of this country: Ráma Lochan published his beautiful little work, a model for Bengali style, the history of Rájá Krishna Chandra Ráya of Nadiyá, which presents various interesting sketches of Bengal at the period of the battle of Plassey. The history of Rájá Prátápáditya of Jessore, compiled by another pandit of the same College, also gives us details respecting the Eastern part of Bengal two centuries ago, and of the large settlement and colony formed by Rájá Prátápáditya in a Sunderbund district to the South of Kálná. The Assam Buranjí is also of some use for historic purposes.

These are composed in Bengali, but there is one work translated into English from the Persian which gives us more information respecting the state of Bengal in the last century than any book that has been published yet, the *Seir Mutákhari*, which admits us behind the scenes in the Murshidábád Durbar, and paints to the life the manners and customs of the Bengal Moslems of that period; it was written by an eye witness, who, like the compilers of the *Rāj Taranginí* or Chronicles of Káshmir, has not shunned to point out the vices of men in high station.

The *Rāj Málá* is a curiosity as presenting us with the oldest specimen of Bengali composition extant, the first part of it having been compiled in the beginning of the 15th century, the subsequent portions were composed at a more recent date. We may consider this then as the most ancient work in Bengali that has come down to us, as the *Chaitanya Charitámrita* was not written before 1557, and Kirtibas subsequently translated the Rámáyana.

The first part of this *Rāj Málá* treats of THE TRADITIONAL PERIOD OF THE TRIPURA KINGS, which is mixed up with various mythological accounts; it informs us that the ancient name of Tripurá was Kirát (the Hunter) from a person of that name of the Lunar or Indo-

Scythian race, the brother of Puru, who was banished to the Eastern provinces by his father Yajáti who held the *Samráṭ* or supreme government of India. He built a city named Tribeg on the banks of the Kupal (Brahmaputra) and subsequently abdicating the throne, he retired to the jungles to devote his life to religious objects. His son Tripurá succeeded him, a profligate tyrant who oppressed the worshippers of Siva; his subjects reduced to poverty emigrated to Hiramibu (Káchár), but returned after five years, as Hiramibu the Rájá of Kámrup gave them no aid. On this they became votaries of Siva who promised them a son named Trilochan by the widow of Tripurá, who would be successful, provided he adhered to the worship of the Sun, and Moon, and that they worshipped at break of day, on certain occasions, the fourteen gods, i. e. the Sun, Moon, Himálaya, Kámadeva, Fire, Ganges, Water, Prabhá, Gaṇesha, Kártiká, Brahmá, Sarasvatí, Siva, and Vishṇu. In the course of time Trilochan was born and placed on the throne with the unanimous consent of the people, who waved two sacred banners over his head; he was distinguished for his wisdom, and the neighbouring kings paid him homage when he was ten years old: the Rájá of Hiramibu offered him his daughter in marriage; he proceeded to Káchár where the marriage was celebrated with great pomp, and for nine days, food was supplied to every one at the king's expense: twelve sons were the fruit of the marriage.* Kámrup, called also Prágjyotisha, the *Kámákhyá* of Sanskrita literature, the region of love according to the Hindus, is famous from an early date; Bhagadatta king of Kámrup is mentioned as a warrior in the Mahábhárata; 18 centuries ago marriage alliances were formed between the royal families of Kámrup and Kashmir, the boundaries of the country were extensive, reaching South of the Brahmaputra from Bontáli to Kapálimukh, and on the North from the Karatyá river to the Díkolai. An account of Kámákhyá is given in the Káliká Purána: it was the Káli Ghát of North Eastern Bengal.

On the death of the Rájá of Hiramibu, a dispute arose among his grandsons as to who should succeed to the throne. On this Trilochan

* The heir to the throne of Tripurá has been always selected from this family, the family marks are a "middle size with a nose of moderate proportion, round body, ears well formed, large chest, small belly, with a neck like an elephant and legs like a plantain tree, arms round as a palm tree; these bodily qualities are to be combined with devotion to Vishṇu and Siva."

sent a messenger to the Dandis or priests of the famous College of Mahádeva in Ságár island* to state that Surjya would be present to listen to their prayers when they worshipped the fourteen gods. These priests refused at first to go to Tripurá until they heard that Tripurá, an enemy to the Bráhmans was dead, and that Trilochan his successor being a devotee proposed going to Ságár island to convey them to his kingdom, attended by a large retinue. On their arrival they performed the usual ceremonies to the fourteen gods, together with the offering of buffaloes, ducks were sacrificed which were collected by the Keráts and Kukis. On the great day of the festival all the gods assembled with the exception of Vishnu, the *Dandi* went to invite him, he came, and together with the other gods was so pleased that they promised always to protect the Tripurá Rájá. Trilochan after conquering various countries visited Yudhistir. He lived to an advanced age and was diligent in performing the following ceremonies, *Durgá-Pujá*, *Dol-Játrá*, *Jal-Játrá*, *Surjya-Pujá*, *Padma-Pujá*, *Bisava Saṅkránti*.†

* The temple of Kapil Muni stood in Ságár island since A. D. 430, but it was washed away by the sea in 1842; the island itself was once densely populated, and contained a population of 200,000, which was swept away by an inundation in 1689. I saw in the *Bibliothèque Royale* at Paris a Portuguese map of Bengal, drawn three centuries ago, which gave the name of five cities to the East of Ságár island on the borders of the sea, the ruins in the Sunderbunds confirm the truth of this description. Mention is made of Ságár island in the Mahábhárata 2600 years ago at least, which shows the antiquity of the shrine there: at that period the Ganges probably disembogued itself into the sea in that direction, flowing down near where Calcutta now stands. The point of confluence with the Ocean would give a sanctity to Kapil Muni's shrine which has been the resort of pilgrims probably long before the Christian era. The Ráj Málá states that the Dandis or Sannyásis "resided in the College of Siva in seclusion for their spiritual benefit, they bathed at day break, dried their clothes by exposure to the air, cooked their own food and were acquainted with all the mantras."

† Several of these *pujás* are not now in use, the *Surjya-Pujá*, like the *Agni-Hotra*, or maintenance of a perpetual sacred fire, has become obsolete; the last man of eminence we have heard of who observed it was Rájá Krishṇa Chandra Raya of Nadiyá, last century: it was one of the few remaining relics in the existing form of the Hindu religion which kept up a remembrance of the link between the ancient elementary worship of the Vedas and the Fire worship of the followers of Zoroaster. Hinduism can adapt itself to changes of circumstances, thus of late years we see the worship of *Olá-utá Debtá* or the goddess of Cholera.

Dakkhin succeeded in accordance with the wishes of the people and of his father Trilochan, but the eldest son was much annoyed at his brother's receiving almost an equal share of his father's property, only two being reserved for him and also that he did not succeed to the throne, being in Kachár at the time of his father's death. He in consequence declared war and gained a victory after a battle which lasted seven days, the eleven brothers fled to the Khalansha river where they founded a settlement. The brother died in a good old age when he was preparing to abdicate the throne in consequence of a rebellion that broke out.

Fifty-six monarchs succeeded him, whose names alone survive. Kumár, the fifty-seventh in succession visited Samalanagar "the dwelling place of Siva," who at that time fell violently in love with a Kuki. On Siva's wife hearing of it, she kicked the woman so violently as to break her neck. The Linga worship was in vogue on the banks of the Manu, but Siva vexed at the increasing wickedness, and at Rájeshwar, the 60th king of Tripurá in succession, shooting an arrow at his lingam because a son was refused to his prayers, declared he would no more visit Tripurá, though his foot marks should remain in the temples; he stated that the Rájá should have no son to succeed him, yet he promised if he offered up a human victim he would be propitious in other respects: the victim was procured with difficulty, for the people fled.*

Pratit the 69th Rájá, formed a strict treaty of alliance with the Rájá of Káchár on the subject of their boundaries, declaring that "the crow would assume a white colour sooner than they should infringe on each other's limits." The neighbouring chiefs fearing the effects of this alliance sowed dissension between them by means of a beautiful woman† whom they sent to the Rájá of Tripurá; the Rájá of Hirámbu became jealous and threatened to slit her nose and

* This indicates that the practice of human sacrifice could not have been very common at that time, and it also shews it was associated in Tripurá, as in other parts of India, with the worship of Siva.

† The women of Tripurá as well as Ásám were not immured and coerced in the same way as Bengali females are; even in the present day in Ásám "in most parts of the country the women of rank go about in public, quite divested of artificial modesty." The Burmese and Mug women also appear in public.

cut off her ears, a punishment which is often inflicted by husbands in the present day when they suspect their wives of intriguing. Jajápha the 74th Rájá, invaded Ráṅgámáti (Udipur). Nikka the king of Udipur with a disciplined army of 10,000 men assisted by the Kuki troops who erected stockades, fought against the Tripurá Rájá, but was defeated, and Udipur was made the capital of Tripurá. During the battle the Rájá in defiance of a prohibition laid on him in the Lochan Charitra against entering a hut, attacked the king of Udipur in one, as the latter entrenched his men in huts, thinking they would not be assailed. This conquest increased the Rájá's power and he proposed to invade Bengal, but had not the means to execute his plans; though his dominions are said to have stretched nearly as far as Amara-pur in Burmah. The priests of Siva in his time were noted for their attention to the Shástras, drying their clothes by exposure to the air and then removing them with their own hands. Of the Rájá's immediate successors, little is recorded except that some had no sons on account of their wickedness.

In the reign of the 96th Rájá Sangthafah, a Chaudhuri (or principal man of a Hindu corporation,) having been plundered in Tripurá of money and jewels, which he was going to present as a tribute to the king of Gaur, laid a complaint before the Gaur monarch, who sent a powerful army against Tripurá, the king being frightened sued for peace. On this his wife highly indignant abused him for his cowardice, telling him she would fight for him. She said to the soldiers, Your king wants to act the part of a jackal, let those who wish to engage follow me. The troops all agreed, but first she ordered a dinner of buffaloes' and goats' flesh to be prepared for them by their wives, of which they all ate very heartily, the next morning they ate again and then proceeded against the enemy; after a severe conflict they completely routed the forces of the king of Gaur. After the battle, the Rájá while reposing on the tusks of an elephant* saw a bloody head dancing in the air, which indicated that a lakh of persons had lost their lives.

The queen of Khysángafah the 98th Rájá was acquainted with weaving which produced a beneficial effect on the kingdom. "Her son was so virtuous that he had eighteen sons," wishing to know which of them

* Some of the Hill tribes require their chiefs always to sleep with the head reclining on an elephant's tusks as a pillow.

was destined to succeed him, he one day after fasting directed that the person in charge of the fighting cocks should keep them fasting, while he and his sons were at dinner, on a signal given the thirty cocks were let loose and proceeded to touch the dinner which in consequence became defiled, but the youngest, Ratnáfah, threw some rice to the cocks, this prevented their coming and touching his food, and so decided that he was the most quick witted. He was sent after his father's death to travel, and went to Gaur, where he resided several years and was treated with great respect; returning with the aid of Mohammadan troops, he conquered the kingdom and beheaded his brother. This occurred probably in A. D. 1279, when Togral invaded Tripurá. Shortly after he obtained from the king of Gaur 4,000 troops to garrison his chief places and the title of Mánik, which the Rájás of Tripurá have retained ever since.

Dharma Mánik the 104th Rájá travelled as a fakir through various places; when at Benares his future exaltation was signified by a snake twined round his body with his head reared over his person. This is considered by the Hindus a presignification of future sovereignty; they derive the practice from the period when Bhagaván or Krishna slept in the Khiroda Samudra on the back of the snake Ananta who covered him with his expanded hood. Shortly after this, a deputation from Tripurá arrived at Benares, where they found the prince dressed as a fakir; they stated that the Rájá having died of small-pox, the troops would not allow the youngest son to be chosen in preference to the eldest, and he was appointed Rájá, A. D. 1407, with the unanimous consent of the people. "He soon sought the road to heaven" by presenting lands to the Bráhmans, the titles to which were registered on copper-plates. After a peaceful reign of thirty-two years he died. Under his patronage the first part of the Ráj Málá or history of Tripurá kings was composed. His younger son was raised to the throne A. D. 1439, but was soon murdered by a faction, and his brother was elected king; the generals having always exercised great influence in the choice of a Rájá. By the advice of a priest, who told him leprous limbs ought to be cut off, he feigned sickness and being visited by the commanders he had them killed by soldiers who lay in wait in his palace. The fate of these generals, in the penalty they suffered for their imperious and intriguing conduct, resembled that of the Janizzaries of the Turkish

empire who were cut off at a stroke in 1826 ; like them and the Mamelukes of Egypt, these generals appear to have been always more or less involved in political intrigues. The people of Tripurá like the Sikhs were a military race, and their soldiers often played the same part as the Pretorian guards did in Rome. The Rájá subsequently invaded Bengal (some of his troops were taken prisoners by the king of Gaur who ordered them to be trampled to death by field elephants) ; he took Khandal and plundered it so thoroughly that the inhabitants were obliged to clothe themselves in the bark of trees ; after this he returned and devoted himself to works of charity, endowing lands for Bráhmans, giving marriage portions to their sons &c. ; he dug a large tank at Kamilláh called *Dharma Ságar* which occupied him two years ; he once gave a great feast to the Bráhmans and their relations, they had to cook their own food ; he ordered the commanders of the Kuki troops to count their men, they did so with a stick while they were eating, the Kukis were required by their law to drop eating, but through fear of losing their lives they swallowed the food which was in their mouth,—they have had a nick-name applied to them ever since on account of this.

In the city of Thánansi which was the capital of Tripurá until the marauding expeditions of the Kukis caused it to be removed to some securer place,* a white elephant was caught, the king of Tripurá claimed it as his property, but the Rájá of Thánansi refused to give it up, on this siege was laid to the town which lasted six months. Ráya Chachag the Tripurá General, was very much annoyed at this delay, he told his soldiers to betake themselves to the spinning wheel, and in order to stimulate their exertions he had their houses unroofed so as to let in the cold and rain. One day having caught a *guano* 12 feet

* The Kukis have long been noted for their fierce, barbarous manners : like the Indo-Chinese races they have flat noses, small eyes and broad round faces ; their language has a strong affinity with that of the Mugs, and their tradition is that they and the Mugs are descended from the same ancestor. From their mountain eyrees they have often sallied down on the inhabitants of the plains and their adventures often remind one of the “border raids” so graphically described by Scott. Their history is almost a repetition of that of the North American Indians,—the quarrels of rival clans and occasional forays on the more civilized inhabitants of the plains. They were the Mahrátás of the Eastern districts of Bengal, but had not the energy or perseverance of the *Bargi lok*.

long, in order to find out the most accessible part of the fort, the soldiers tied a string to the animal's body and let it loose, it entered the fort and the string served as a clue to the soldiers who passed into the fort, the guards being drunk ; all the males were put to death and the females were taken captive, Ráya Chachag then proceeded to the conquest of other countries to the East, he was accused by the Kukis of an attempt to make Samul an independent state, but was acquitted of the charge. In 1512 A. D. he conquered Chittagong and defeated the Gaur troops who defended it.

Haseyn Sháh sent a strong force from the twelve provinces of Bengal under the command of Gaur Málik, which took the fort of Maharkul ; but the Bengal troops were repulsed before another fort. At the suggestion of an eunuch in the Tripurá army they made a dike of *Soná Mati* or red earth across the Gumti and bunding in the waters for three days, they then broke it down—the torrent caused all the Mogul troops to retreat. The Rájá Sri Dhyan in order to destroy the enemy offered up a human sacrifice, a black Chandál boy, to Báhbachari (the wife of Siva) on the banks of the Gumti, the head was thrown in among the enemy ;* it is said this so pleased the goddess that at night she came among the Mogul troops and made so loud a noise as to create a panic, and the troops all fled from Chandigar. The Rájá marched on Chittagan, the enemy fled and he proceeded further in his conquests. Hoseyn Sháh sent another army under Hyten Khán to conquer Rángámáti, the capital of Tripurá, after a battle which lasted a day, the Tripurá troops were obliged to retreat ; on this the Rájá summoned the Dáin or witches to know why they did not aid him ; the chief witch promised to stop the stream with her body, and then to rise up and let the torrent sweep away the enemy's troops.

* Human sacrifices prevailed at an early period in Tripurá, and even of late years strong suspicions have been entertained of the practice being occasionally observed at the shrine of Kámákhya in Asám, and at Káli Ghát in Calcutta. But in no part of India were more human victims offered than in Tripurá, which appears to have been one of the strongest holds of Hinduism ; the Eastern districts formed favourable settlements for the Bráhmaṇas as is shown by the magnificent architectural remains in Asám of the Hindu conquerors who entered that quarter probably from the North West, while colonies of Bráhmaṇas from Mithilá confirmed by the tie of religion what was begun with the sword.

The historical basis of this myth is probably that the Tripurá troops adopted the same practice as was employed by the Dutch against the Spaniards at the siege of Leyden, viz. breaking down embankments so that the hemmed in waters might sweep away the enemy. The enemy fled, when Hyten Khán arrived at the fort of Sogoria he declared, putting his hand on his head, that he who would conquer Tripurá ought to bring with him double the troops he had, he was degraded on his return to Gaur.

Sri Dharma having returned to his capital Rángámáti, worshipped the fourteen gods with great pomp, and directed that *human sacrifices* should be offered only triennially, in ancient times one thousand used to be sacrificed every year. He introduced musical teachers from Tirhut* and the Tripurá people, soon became proficient in a knowledge of song. He made an image of Bhubaneswarí of gold, weighing a maund, he placed cotton in her nostrils so that at the pujá time when the *Prána Pratisthá* ceremony is performed, her breath might blow it away, the people all cried out that a miracle had been performed, though a pipe perforating the body and in contact with the mouth of a priest accounts for the whole, we have many instances of similar tricks in Europe in the middle ages.† The Rájá was a great

* Tirhut, the ancient Mithilá which gave a wife to Ráma, seems in former days to have been a *point d'appui* for the Bráhmaṇs in the progress of their influence from North to South: Nadiyá derived its learning from Mithilá pandits, and the far famed Kámrup in Asám, the Paphian residence, received a colony of Bráhmaṇs from Mithilá, who effected the work of proselytism so effectually that "the priests maintained an authority, more exalted, more extensive than they had been able to engross in any other part of India." The temple of Kámákhya near Gauháti is frequented by pilgrims from all parts of India, and is the only temple in those parts which boasts of its *Deva Dási* or temple women; it contains, it is said, 5,000 of these.

Though Bráhmaṇism spread itself in India chiefly by missionary colonies and conquest, yet proselytism was resorted to largely as the histories both of Asám and Tripurá show, it seems in its course from the North to have taken as successive centres of action, Kashmir, Aude, Tirhut and Nadiyá.

† Much injury has been done to the cause of truth by ignorant assertions, such as that the Hindus regard the pieces of stone or clay that they worship to be gods, this is confuted by the fact that the *Prána Pratisthá* or infusion of divinity into an idol is a ceremony without which no sanctity is attributed to it, as may be seen at the time of the Durgá Pujá and other Pujás when the idols are flung into the river after the

worshipper of the lingam, and erected many temples; on one occasion after the bricklayers finished some temples, they admitted they could make them of better materials, the Rájá indignant at their not erecting for him the best temples ordered his attendants to put them to death. The Rájá lived to a good old age, a great worshipper of the lingam; he died of small-pox and his wife performed Sati.

His son Déb Mánik succeeded and marched to Chittagong; on his return he offered a human sacrifice: while worshipping the fourteen gods in the place of cremation, the officiating Bráhmaṇ induced a man to personate Siva and to direct the Rájá to kill his eight champions as a sacrifice, which he did, but soon afterwards finding out that the Bráhmaṇ had practised a deception he intended to kill him, but the Bráhmaṇ anticipated him and deprived the Rájá of life, giving out that he had been killed by the fourteen gods in consequence of not performing their worship with proper ceremonies. This Bráhmaṇ carried on an intrigue with the youngest wife of the late king and the two secured the power in their own hands, but it was of short duration, as the people being indignant with the prime minister assassinated him in his palankin, the pseudo Rájá and his mother were also killed, and were all buried in one grave. The young Rájá who succeeded, finding himself treated as a puppet by the prime minister had him assassinated by one of his favorites who intoxicated him with spirits after dinner. Braja Mánik the young Rájá now made various conquests, the Rájás of Kasyá and Silhet did him homage, the former presented five elephants and ten horses as a mark of vassalage, but the Rájá being vexed at the insolence of the Kasyá prince sent an army of 1,200 Háris or Mehtars, to fight against him with *Kodúlis* or spades; the Rájá, feeling that great disgrace was to be inflicted on him, persuaded the Rájá of Hirambu to intercede for him, who obtained his pardon and the Mehtars were stopped as they were on their march to Jayntiä.

deity takes its departure from them. This is probably a remnant of that primitive form of Sabian idolatry by which the planets were worshipped as being the residences of certain deities. But whether we regard the defence set up for Hindu idolatry on the Pantheistic grounds, that God being in all matter every thing is part of him, or that idols are symbolic ladders to lead the vulgar from sense to spirit, we see enough to show us that popular idolatry may flourish side by side with a cold system of Deism.

One thousand Páthán horsemen revolted from the Rájá, owing to the arrears of wages not being paid up ; they were on their march to Chittagong, and attempted to kill the Rájá and take Rángámáti, but were secured and the greater part were offered up as sacrifices to the fourteen gods. The king of Gaur sent 3,000 horse and 10,000 foot to Chittagong, the war lasted eight months. In one engagement the Tripurá troops lost their general, Mohammed Khán the general of the king of Gaur was however taken prisoner confined in an iron cage and at the instigation of the head Bráhmaṇ priest, was sacrificed to the fourteen gods.

At this time Bijaya Rájá of Tripurá marched to Bengal with an army composed of 26,000 infantry, and 5,000 horse besides artillery ; he went by 5,000 boats along the streams Brahmaputra and Lakhi to the Padmá ; at Sonárgán, where he spent several days revelling in licentiousness, he took into his seraglio many beautiful young women ; he crossed the Brahmaputra by a bridge of boats and invaded Sylhet, where he dug several tanks, but his soldiers were very fond of plundering the people and one day they destroyed a village, the natives all fled, with the exception of a woman who caught one of the plunderers by the leg, he tied her by her hair to a post so that she could not move, on her husband returning in his indignation he beat the trooper so severely that he died ; the Rájá ordered all the natives of that village to be punished ; after making presents to the Bráhmaṇs he returned to his capital Rángámáti where he devoted one day to distributing gifts called *Kalpa-taru*,* i. e. whatever request any one makes to the Rájá he is to obtain it, but this is limited to one day and only a select number are admitted into the palace to make application. The astrologer having declared that his youngest son Ananta would succeed to the throne, the Rájá sent his eldest son on a pilgrimage to Orissa. Ananta married the daughter of Gupi Prasád, the commander-in-chief ;†

* The *Kalpa-taru* or *Kalpa-brikshya* was one of the fabled trees of Indra's heaven, eating the fruit of which would effect the accomplishment of any wish, like the *Kámadhenu* or cow of plenty mentioned in the *Raghu Vansa*. The English fairy tales give us a similar object in Fortunatus' wishing cap, while the Arabian Nights abound with references to this. Probably some floating traditions respecting the tree of knowledge in the garden of Eden may have given rise to this notion of the *Kalpa-brikshya*.

† This man's life shews how men of low origin often rise to power. In these times Gupi was originally the Rájá's Gomásthá at Dharmanagar, while there he

his father soon after died of small pox having reigned 47 years, his corpse was followed to the pyre by a great number of women.

Ananta Mánik succeeded to the throne by the help of his father-in-law the quondam cook, with whom Ananta always dined. After the king reigned $1\frac{1}{2}$ years he was strangled at the instigation of his father-in-law who mounted the throne under the title of *Udaya Mánik*. His daughter demanded to burn as a *sati* with her husband, but this was refused, she then claimed the throne and was allowed to be *Ráni* of Chandipur, while Udaya made Rángámati his capital, which he adorned with beautiful buildings, temples, and tanks, changing its name to Udayapur. He kept 240 wives who were so dissolute that they persuaded not only other men but even the prince of Gaur to cohabit with them, as he was on a visit to the Rájá of Tripurá. When the Rájá heard of it, he had some of them trampled to death by elephants, and others devoured alive by dogs. As the Patáns were marching on Chittagong, the Tripurá troops were sent to attack them, which they did during the night, notwithstanding the unfavourable omens of the flapping of the vulture's wings, falling of fire from the sky and the barking of foxes. The Tripurá troops were routed with a loss of 40,000 men while the Patáns lost only 5,000. The war lasted for five years. Udaya Mánik died five years after this from having taken a poisoned pill of quicksilver given by a woman. At this period numbers died from famine and from disease the result of it.

Jaya Mánik, the son of the late king, succeeded, but only nominally, as his uncle Runág Náráyaṇ had the real power; as the latter saw that Amara Mánik had great influence, he asked him one day to dinner with the intention of intoxicating and then killing him, but a friend at table by cutting the stalk of a pán leaf hinted to him the intention of his enemies, he pretended to be unwell retired from table and went instantly to the stable—but the horse was gone! on this he seized by force the horse of a Khaista and made his escape. He soon rallied his friend's sons around him and proceeded to attack Runág, he provided each of his soldiers with a piece of cloth 9 feet long to strangle their enemies

climbed a tree belonging to a Bráhmaṇ who beat him so severely that he was driven from the place in great disgrace, he became a cook to the Rájá, then a Chaukidár, afterwards having taken an oath on the Sálagrám he was appointed Commander-in-Chief and his daughter was subsequently married to the Rájá's son.

in the same way as Ruuág had intended to strangle him. Runág being in a fort sent to his brother for troops, but a forged letter was carried by the messenger and the brother was so joyous on receiving it that he prostrated himself on the ground, the messenger on this as instructed, cut his head off and it was thrown into the fort, this so terrified Runág that he ran away to an uninhabited place, his enemies found him subsequently in a tank where he had been for two days immersed up to his chin having his head covered with a rice pot, the head was cut off by a soldier and carried to Amara Mánik who gave him the name of Sáhás Náráyan. Jaya Mánik sent to ask why he had killed his relation, he answered by dispatching troops against the Rájá, who fled and was overtaken : his head was cut off.

Amara Mánik mounted the throne, he was the brother of Bijaya Mánik, his mother was a private individual whom his father fell in love with, struck one day with her beauty as she was drying her hair in the sun. Amara Mánik resolved on virtuous deeds by digging tanks ; he ordered all the landlords of his kingdom to send coolies for this purpose, accordingly nine zemindárs sent 7,300 coolies. The zemindár of Taraf in Sylhet refused, an army of 22,000 men was sent against him, his son was taken prisoner, put into a cage, and brought to Udayapur. The Rájá next (A. D. 1582) marched an army against the Mohammedan commander of Sylhet, whom he defeated. The order of the troops in battle resembled in figure the sacred bird Gaḍuḍa, the two generals in the van represented the beak,—the troops on the flanks the wing, and the main army the body ; during the fight both parties became fatigued when a suspension of arms took place by mutual agreement ; they afterwards resumed the battle, when the Musalmáns were defeated. Sylhet from this time (A. D. 1514) became tributary to Tripurá. The Rájá next defeated the zemindárs of Balarám who refused to submit, on the ground that Amara Mánik was not of the royal line, but he was also defeated. On this occasion a Bráhmaṇ was accidentally killed, which caused great grief through the kingdom and the king made a private atonement for it. After this he sacked the fine city of Báklá and sold the men as slaves. He then returned to his capital and performed a grand ceremony on the completion of his tank as also the ceremony of *túla* or presenting to a Bráhmaṇ gold of the same weight with his own body.

While the Tripurá people were enjoying the seclusion arising from their insulated position a new enemy, the Muhammadans, made their appearance and invaded the country, A. D. 1587. Delay in defending the land was at first caused by the Tripurá commander Issáh Khán waiting for a lucky day, but at last he obtained the consent of the Viziers to furnish him with troops, and he also won the favour of the *Ráni* who tested his sincerity by giving him the water in which she had washed her body : he drank it. 12,000 troops marched against the Musalmáns who fled without coming to action.*

The *Bhút* or *Devils* are said to have been hostile to the Rájá at this time, because he cut down *Bat* trees under which they dwelt, their presence having been known by the trees shaking without any natural cause. When the Rájá cut down the trees, water gushed out which formed a lake and in order to appease the anger of these Devils he offered up human sacrifices, but in vain, on the banks of the tank. The people were greatly alarmed at this time, at the spread of rumours that 125 boys must be immolated to propitiate the devils, and that Udipur and the whole country would be destroyed by an inundation.

The Rájá subsequently declared war against Arrakan, invaded it and took many places, he was repulsed by a junction of the *Mug* troops with the *Portuguese*,† but he regained his ground ; the Rájá sent a letter to the king of Arrakan, challenging his troops to battle, the latter replied that he would postpone fighting till next year ; the Rájá

* This presents a wide contrast to the behaviour of the Bengalis when invaded by Bakhtiyár Khiliji, the Muhammadans met with no resistance ; but this must be stated on the other side that Nadyá was deserted previously by the nobles owing to a conviction that resistance would be vain. However in one place the Bengalis subsequently fought for their independence—on the field of Panduá near the Burdwan road,—the *casus belli* was—the Hindus finding the bones of a cow which had afforded the materials for a feast to the Muhammadans, in revenge killed a Muhammadan child, troops were marched against the Hindu Rájá of Puryá, and after a hard contested battle the last spark of Bengali independence was extinguished.

† This is the first notice taken of the Portuguese, though they had come into Bengal in 1566, as mercenary troops in the service of the king of Gaur. They carried on a system of plunder and piracy which would have disgraced even the buccaneers of the West Indies, the desolate state of the Sundarbans, now the abode of alligators and tigers, but once affording a residence to an industrious and numerous population, bear witness to the depredations of the Portuguese.

concurrent in this and both agreed to fight before the celebration of the Durgá Pujá, in order that the slain might be offered as sacrifices to Durgá. The Tripurá troops accordingly retired into winter quarters. But Sekandar Sháh the king of the Mugs did not wait for the Durgá Pujá, he invaded and took Chittagan. The Rájá of Tripurá sent an army under the command of his three sons to repel them. On this the king of the Mugs wished to make peace and sent the brothers a crown of ivory as a present, a dispute arose among them as to who should possess it, and one who lost it abused the Mugs. This led to a battle, the Mugs were defended by stockades, and on Jagier, one of the Rájá's sons, attempting to mount a wounded elephant, the animal maddened with pain, seeing his ornaments seized him and trampled him to death: the Tripurá soldiers fled; another battle was fought which was gained by the Mugs in consequence of a disagreement between two thousand Patan cavalry. The Mugs marched on to Udipur which they plundered, A. D. 1587, the Rájá fled to the forests of Dum Ghát.* In consequence of these misfortunes, as well as from bad omens and unpleasant dreams, the Rájá resolved to destroy himself, having bathed in "the sacred Mani river," he swallowed a quantity of opium and died, in the course of a day.

He was succeeded by his son Rájadhara Mánik, the Ráñi his mother performed Sati "decorating her person with all her ornaments and directing Ráma's name to be written on her body." Rájadhar in opposition to the wish of his nobles gave away much land to the Bráhmaṇs stating that in his old age he might not be able to do so; he was an enthusiastic Vishṇuvite, employing eight singers to chaunt the praises of Hari day and night. He did not perform the most trivial action without the order of his head Bráhmaṇ. He erected a temple to Vishṇu and surrounded it with a flower and fruit garden in which he worshipped every day. Adin Tagrul king of Gaur thinking him

* The Mugs are of the same race with the Kukis to whose language the Mug bears a strong affinity. They have at various times exhibited a considerable amount of energy, and at one period they contended with the Burmese for the sovereignty of Asám. They resemble in their career the Mahráttás, but history does not hand down to us any great leaders; being governed in the patriarchal mode by chieftains and divided into clans, they could not bring a centralising power to bear on their conquests.

peaceable, sent troops to plunder the country, but they were repulsed. The Rájá one day absorbed in meditation, while walking on the banks of the river Gumti and drinking the water in which the image of Vishṇu had been washed, fell into the river and was drowned.

Jashadhara Mánik succeeded him, A. D. 1591. Haseyn Sháh king of the Mugs, continued at war with him for twenty-one years, and the Muhammadans by the direction of Jehángir, who wanted horses and elephants, invaded Tripurá; the Moguls proved victorious headed by the Nawab Fattah Jang, the capital was taken and the Rájá was sent a prisoner to Delhi: he was allowed to go on pilgrimage to Benares, Allahábád, Mathrá, Brindában, and was offered his throne again on condition of paying tribute in horses and elephants, but he declined, saying, his country was too much impoverished by the devastations of the soldiers to allow of being taxed. He died at Brindában of fever in the seventy-second year of his age "while meditating on the excellency of Vishṇu," his body was buried with costly perfumes.

In the meanwhile the Mogul troops were guilty of great atrocities in Tripurá, plundering the temples and robbing the inhabitants, they even drained the tanks in search of treasure; they continued this course for two years and a half, until a dreadful plague caused them to leave the country.* Kalyán Mánik was raised by the nobles to the throne, in the year 1625; he coined mohurs in Siva's name and his own, he made a tour of his dominions distributing money and land to the Bráhmans whom he held in such reverence that he made them eat before him, he was also kind to the poor and equitable to his subjects. The emperor of Delhi finding he refused to pay tribute directed the Nawáb of Murshidábád to send an army against Tripurá, the troops carried with them a famous cannon made of *leather*, but they were

* It is owing to similar conduct of the Musalmáns as well as the effects of climate that we have so few remains of antiquity in Bengal. No regard was paid to any thing Hindu. In Gaur which is said to have been the capital of Bengal 750 B. C. almost every Hindu monument has disappeared long since, having been either destroyed or used for Muhammadan purposes. The policy of the Muhammadans in Bengal was like that of Edward the Third towards the Scotch,—the destruction of every remnant of a people's nationality and ancient memorials; the Muhammadans made an effort, but a vain one, to extirpate the Bengali language by making the Persian the only one recognised by Government and discountenancing every effort to create a Bengali literature.

defeated. The Rájá then applied himself to devotional objects, he observed the ceremony of *tulá*,* gave presents of horses, elephants, &c. to the Bráhmans and particularly to those who came from Mathrá, Benares, and Orissa, he paid the travelling expenses of those Bráhmans who were desirous of making a pilgrimage. He died A. D. 1659.

We make a passing remark that though Bakhtiyár Khiliji the conqueror of Nadiyá, invaded Asám, he found the people not the feeble race he had met with at Nadiyá, and retired broken-hearted from defeat. It was not until a late period the Musalmáns entered Tripurá led by a desire to obtain elephants which they wanted for military purposes.

A. D. 1659, Gobinda Mánik mounted the Tripurá throne, his wife was a devotee who dug a tank called after her own name, she had also coined mohars in which her own name was on one side, that of the Rájá and Sivá's on the other. The step-brother of the Rájá, having obtained assistance from the Nawáb of Murshidábád attempted to gain possession of the throne; the Rájá being a peaceable man and not wishing to fight with a relative, fled to the king of Arákán, who gave him an hospitable reception, and Chattra Mánik obtained possession of the throne, but he died of small-pox after a reign of seven years.

While Gobind was at Arákán, Sháh Sujá, the son of the emperor Sháh Jehán, came there; having been defeated by his brother and disgusted with the world, he marched through Tripurá to Arákán in order to embark thence for Mecca where he intended to end his days, he was received very kindly by the ex-Rájá of Tripurá who gave him a Nimchá sword as a mark of his gratitude. But the king of Arákán pretending that Sháh Sujá had conspired against his life by sending soldiers in disguise into his palace in *dulis*, in order to assassinate him, resolved to kill him, but being a Buddhist he could not shed blood except in battle, he had him therefore bound and put into a boat on the river, a plank being taken out of the boat it sank with Sujá fast bound in her, the King satisfying his conscience by drowning him, and not shedding his blood; the consort of Sujá plunged a dagger into her bosom rather than submit to the embraces of the Rájá of Arákán; while her daughters poisoned themselves.

* Since Hindus have ceased to be the rulers of India the ceremony of *tulá* to the great pecuniary loss of the Bráhmans has ceased to be observed in India: it consisted in the king's giving his own weight of gold or silver to the Bráhmans.

The usurper having died, Gobinda was again elected to the throne; he sold the sword given him by Sháh Sujá, and devoted the money to objects of utility; he gave presents of salt to all the people of Udipur, cultivated the wastes of Maharkul, and granted land at a reduced rent to the Bráhmans, confirming his donation on copper-plates; he died much regretted, and was succeeded by his son. During his reign intrigues were made with the Nawáb of Murshidábád* to dispossess him of the throne—but in vain.

Ratna Mánik succeeded when only five years old, when he grew up he married one hundred and twenty wives; the heir apparent was guilty of great cruelty, on which account Shaistá Khán, Nawáb of Bengal, took him prisoner and sent him to Delhi.

Narendra Mánik usurped the throne through his influence with the Nawáb of Dacca, but his deceit being found out, the Nawáb deposed him and reinstated the former Rájá; but he did not hold it long, as his brother by intriguing with the Nawáb of Murshidábád gained the throne; his ministers telling him that as two tigers cannot remain in the same jangal, nor one wife with two husbands, so neither could he remain with the old Rájá; he therefore had him strangled, but after that period he never enjoyed peace, being haunted with dreams of some person strangling him in the same way as he had strangled his brother, he gradually wasted away in flesh.

Dharma Mánik succeeded. The Nawáb of Murshidábád having deprived him of a large portion of territory on the plains, locating Mogul zemindars in them, and the Mogul troops at Udipur proving a great annoyance, the Rájá resolved to destroy them: he invited them to dinner and intoxicating them with strong liquor, he had the palace gates shut when all were killed with the exception of a few who climbed the walls and so escaped.

At this time, A. D. 1739, Jagat Ráma, the son of Satra Mánik, who had long lived an exile from his country at Dacca, induced the Nawáb of Dacca to send an army to enforce his claims to the throne of Tripurá, he promising to pay up the arrears of tribute; the Muham-

* This statement of Murshidábád being the capital contradicts the accounts of the historians that until 1704 Jaffier Khán did not remove the seat of government from Dacca to Murshidábád, which received its name from Murshid Kuli Khán. However mention is made of the place in the reign of Akbar.

madan troops however were defeated, but in a second invasion the Rájá fled and Jagat Ráma was made Rájá, a large body of Moslem troops was stationed in Tripurá, its name was changed to Raushanábád, or city of light : as it was an essential part of the Moslem polity wherever they gained an ascendancy to alter the names of persons and places, like the Russians with their Panslavism, they aimed at making the Arabic language as well as religion predominant wherever the Crescent shone. In a similar way the Muhammadans in India made a knowledge of Persian a *sine quá non* as a qualification for office, their great policy was to denationalize the Hindus by discouraging the study of the Sanskrita and Vernacular languages,—but after the operation of this system for six centuries in Bengal, what has been the result ? When the glorious measure of Lord W. Bentinck was promulgated, directing the Vernaculars to be the language of the Courts, Persian found few advocates except in interested Amlas and Maulavis who realised their profits by mystifying the people through the veil of a foreign language. Persian as a branch of education is almost extinct in Bengal except in a few Madrassás.

By ingratiating himself with* Jagat Set, the wealthy banker of Murshidábád, the old Rájá regained his throne, and reigned for eighteen years subsequently ; he had the Mahábhárat and other old books translated for him. His son succeeded him and refusing to pay tribute he was taken prisoner, but to avoid further indignities he poisoned himself. Jaya Mánik succeeded, but the eldest son of the late Rájá, who had long resided at Murshidábád, through his influence with the Nawáb gained the throne, promising to pay up the arrears of tribute ; but he did not remain long on it, an intrigue was formed against him at the Court of Murshidábád, and Indra Mánik was placed on the throne by the Nawáb, an intrigue was formed against

* *Jagat Set*, or the banker of the world, a title he received from the Court of Delhi, was a member of a Jain family, as famous for banking transactions as the Rothschilds ; Burke said of them that their transactions were as extensive as the Bank of England. Holding the purse strings they possessed almost unlimited influence at Murshidabad which continued until the Exchequer was removed to Calcutta in 1772. At one period when the Mahrátás plundered Murshidábád Jagat Set lost one crore of Rupees, but the loss seemed to trouble him little, he had so much treasure in store.

him also at the Nawáb's Court, but he went in person to the Nawáb promising to pay the arrears; he obtained a certificate of his proficiency in the Persian language. He died after a reign of four years.

Bijaya Mánik was appointed Rájá by the Nawáb with a salary of 12,000 Rs. monthly, on the stipulation of sending all the revenue to Murshidábád—but falling into arrears he was sent prisoner to the capital, where he died in confinement some time after. Samsher Jang obtained the government and agreed to pay the revenue without any delay, but the people not recognising him as the legitimate heir, he then installed as Rájá, one of the Tripurá family, who resided at Sonárgán, but they still refused; a battle was fought in which Shamsher was victorious; he governed for twelve years with such cruelty and caused such loud complaints to be raised on account of his atrocities that the Nawáb had him seized and blown from the mouth of a gun. Kishen Mánik succeeded. The Dewán of the Nawáb collected all his forces at Chittagan and advanced against the Rájá of Tripurá who was defeated at Kasbá. He soon after died.

After an interregnum of five years in consequence of disputes as to who should succeed, in which the Kukis were called in by one party as combatants, Durgá Mánik, the Jubarája, received from the English government the Khelat as Rájá in 1808; after four years he proceeded with his family on a pilgrimage to Benares, Prayág; while on his way to Gayá he died near Patna and was burned on the banks of the Ganges. His late rival Ráma Gangá was appointed by the English Government Rájá according to the Tripurá laws of succession, though several of his rivals disputed his title by force, the Kyphangs aided one party, but the English soon decided the difficulty. The Rájá sent presents to the Governor General, and on the occasion of his installation gave a magnificent feast; he applied himself then to religious duties, having built a temple at Brindában at an expense of 24,000 rupees. He erected a temple to Siva at Gangá Ságar, cleared out the tank there, and gave the rent of several villages for supplying the fourteen gods on that island with boiled rice; the Kukis revolted but were subdued, and consented to pay their usual tribute of coins and ivory. In 1822, the people of Haramba submitted to the English Government, having been previously very much oppressed by the Burmese.

In 1765, Tripurá came under British rule, the income of the Rájá then, was about 300,000 rupees. Krishṇa Mánik was made Rájá by the aid of the English, having succeeded to Shamsheer Khán noted for his cruelty and tyranny. He performed the ceremony of tulá and gave away large sums of money, particularly to the pandits of *Nadiyá*,* though he could not be as liberal as before, English collectors being appointed in the country. Krishṇa Mánik died after a reign of twenty-three years, there being no Jubarája, his queen ruled the country for some time, but the people did not submit willingly to her sway; she then petitioned Government who confirmed her request that Rájendra Mánik, her nephew, might succeed, which he did A. D. 1785. Cotton was cultivated in Tripurá in his time, and an invasion of the Mugs was repelled, the revenue collected by the English amounted to 1,39,000 Rupees. The Kukis were also punished severely by the Rájá for an inroad made on the country. Rájendra married the daughter of the Rájá of Manipur; he made an image of eight metals which he placed in the sanctuary of Brindában; he became a great devotee, spending four months in prayer to the gods without speaking to any one, he then abdicated the throne and assumed the habit of a Sannyási; he died soon after, having reigned 19 years.

In 1826, the Rájá died, when dying he sent for his spiritual guide and put his *foot on his head*, an *eclipse of the moon* occurred at the same time, which was considered a sure sign that the Rájá would go to heaven; when he became insensible, a *sálagráma* was placed on his breast. On the occasion of his *Sráddha* 18,000 Rupees were distributed among the poor, which was collected by *subscription*, as the Rájá's brother was too much in debt to afford it. The late Rájá reigned eleven years, he was accomplished in the Persian language, and also serving and firing a

* The pandits of *Nadiyá* have for several centuries exercised considerable influence in the East of Bengal, and in the district of *Asám* they made great progress in their proselyting efforts, though it is a popular notion that Hinduism admits of no proselytes, yet various instances could be adduced on the opposite side. The fact that the *Asámese* language is almost a pure derivation of *Sanskrita*, though the early conquerors the *Aboms* were not a Hindu race, shews the powerful ascendancy that Hindu Institutions must have attained at an early period over them: *Bráhmaṇism* now is stationary in its proceedings, but in former days it seemed as anxious to vend its spiritual wares as are the *Mahrwári* and *Mogul* merchants to dispose of their articles in trade.

gun quickly; his bones were sent to Brindábana. The Jubarája Kási Chandra was nominated by the English Government his successor, who sent to him a Khelat of honor consisting of the following articles,—a short sleeved jacket, a large dress, turban, a cloth band to encircle the head, gold band for the head.

The Rájá was noted for his dissipated habits and his respect for the Bráhmans; he died in 1829 after a short reign of three years; his Rápi on hearing of his death, committed suicide.

The portion of this history, relating to the English period, contains little matters of interest beyond the squabbles between Rájás and Collectors, expensive marriages and feasts given to Bráhmans by zemindars as deeply involved in debt as some of our Chowringhee magnates.

There are a few points omitted in this history which are rather singular—no mention is made of Dacca though it carried on a trade with the Romans, and its muslins were used by the ladies of Rome in the days of the Cæsars. No reference is made to Buddhism, though it was at one period the predominant religion in Bengal, and extended its sway from the Indian Ocean to the frontiers of China: this may be accounted for, perhaps, on the ground that those chronicles were composed by Bráhmans who may have adopted in them their usual policy of taking little notice of their religious opponents, passing over their history in contemptuous silence.

PROCEEDINGS
OF THE
ASIATIC SOCIETY OF BENGAL

FOR OCTOBER, 1850.

The usual monthly general meeting of the Asiatic Society was held in its Rooms, on the 2nd instant, at half-past 8 p. m.

WELBY JACKSON, Esq., Vice-President, in the Chair.

The proceedings of the last meeting were read and confirmed.

Read letters—

1st. From W. Seton Karr, Esq., Under Secretary to the Government of Bengal, forwarding, for the use of the Museum of Economic Geology, a Map of the Cuttack district.

2nd. From Sir H. M. Elliot, Secretary to the Government of India with the Governor General, transmitting, for publication in the Society's Journal, a Statistical Report on the Spiti Valley together with a sketch Map drawn up by Capt. W. E. Hay, Assistant Commissioner in Kulu.

Ordered—that the thanks of the Society be conveyed to the Most Noble the Governor General for the report.

3rd. From Dr. G. Buist, Bombay, enclosing a paper on the general vibration or descent and upheaval, which seems, at a recent geological period, to have occurred all over the northern Hemisphere. Ordered for publication in the Journal.

4th. From W. Seton Karr, Esq., Under Secretary to the Government of Bengal, presenting two copies of a Map of Arabia for the use of the Society's Library.

5th. From Capt. J. C. Hannington, Chota Nagpur, forwarding a note to be appended to the Barometrical Tables, lately presented by him to the Society.

6th. From Dr. T. S. Wise, submitting the following extract from a letter of his brother J. P. Wise, Esq. respecting the History of the Tipperah Raj lately forwarded by him for publication in the *Bibliotheca Indica*.

“The Rájmállá of the Tipperah Family which bears all the marks of antiquity, is kept with the greatest care by Wazier or Ráj pandit. He gave me the original MS. for a few days to copy, as a great favour. I was at the time in charge of the Maharájá’s affairs, and I have every reason to believe it to be a genuine record of the Tipperah Family.”

Ordered that the letter be brought forward for consideration, on the receipt of the Rev. Mr. Long’s report on the original MS.

7th. From E. Blyth, Esq., communicating a short note on the Bird-devouring habits of a species of spider, by Capt. W. S. Sherwill.

8th. From Capt. M. Kittoe, Benares; enclosing a note on an inscription engraved upon a brick found some years ago in a field near a village in the Juanpore district, also a transcript from the original, and a translation by James Ballantyne, Esq. Principal of the Benares College, and suggesting that the second part of the Naishada be printed in the *Bibliotheca Indica*.

The Secretary stated that the work named by Captain Kittoe, is in the press, and will shortly be published.

9th. Extracts were also read from a private letter of Capt. Kittoe, offering to send down a large collection of Buddhist sculptures from Benares. Referred to the Council.

10th. From B. H. Hodgson, Esq., forwarding Vocabularies from the North Western Frontier and Ceylon in continuation of his series of Vocabularies intended to exhibit the glottological affinities of the whole of the aborigines of India.

11th. From Mr. Blyth, enclosing a continuation of his *Conspectus of the Ornithology of India*.

12th. From Capt. T. Latter, submitting a work entitled, “*Selections from the Vernacular Buddhist Literature of Burmah*,” and soliciting the Society’s patronage to the same. Referred to the Oriental Section.

13th. From R. W. G. Frith, Esq., forwarding a specimen of Nepal paper presented to the Society by C. Chapman, Esq.

14th. From Dr. E. Roer, submitting an extract from a letter of professor Wilson to Dr. Ballantyne, recommending the publication of the text and an English translation of the Anumāna Khanda; also the subjoined from a letter of Dr. Albert Weber.

Extract from a letter, from Dr. WEBER, dated the 25th July, 1850.

"I have received the fourteen first Nos. of the Bibliotheca Indica and Dr. Hæberlin's Anthology, for which valuable presents, I return my most sincere thanks to the Asiatic Society. I have given a notice of those works in the third number of my Journal, "Vedaic Studies." The Bibliotheca is indeed a splendid undertaking, and we are much indebted for it to the Asiatic Society, and to yourself. Lassen also, in the last number of his Journal, has spoken of it in high terms.

Messrs. Duemmuller and Co. will in about eight days forward to Messrs. Allen and Co. the 20 copies of the two first volumes of the Yajur to which the Asiatic Society has subscribed. Dr. Marwitz rather wishes to receive the amount of the subscription in money, than its value in books, as the subscription has not yet covered the expenses of the edition. Has the Society authorized Allen and Co. to pay the amount of the subscription? If not, you will much oblige me by requesting the Society to give directions to Allen and Co. to that effect. As this time the copies of two volumes will be despatched at once, the sum will amount to £40. The third volume is to appear at the end of February, 1851.

You appear not to have received the first number of my "Vedaic Studies" when you wrote to me (3rd May), and yet I sent it already on the 7th Aug., last year, to Messrs. Allen and Co.

Stenzler is zealously employed with an edition of the "Grihyasūtras by Aswaláyana, Parasāra and Gabhila," and all these labours are preparatory to a complete history of Indian law which he intends publishing. Hoefer, of whom a Sanscrit Anthology lately appeared, is to edit Vararuchis Prakrit grammar. Aufrecht and Kuhn publish a journal for the comparison of the Latin, Greek, German and Sanscrit languages. Bergstadt in Upsala has published Sankara's Jnānabodhinī, and will soon edit the Brahmasūtras with the commentary of Sankara. Spiegel of Erlangen prints here (in Berlin) his Pazend Grammar, and his great edition of the Vendidad Sadi with Pehlvi, Sanscrit, Persian and German translation will soon be commenced. An excellent commentary on Hiob (Job) has been published here by Schlottmann. Langlois in Paris has already edited the first four Ashtakas of the Rig in a French superficial translation. A reprint of Wilson's dictionary will, with his permission, be made by Auber and Co."

After some discussion as to the propriety of allowing a synopsis of the proceedings of the Society to be published in the newspapers, it was proposed by Mr. J. R. Colvin, seconded by Capt. Broome, and resolved, that it be left to the discretion of the Council, by direction to the Secretary, to allow an abstract of the Society's proceedings to be published in the newspapers.

The Zoological Curator and Librarian having submitted their usual monthly Reports the meeting adjourned.

Confirmed at a meeting held on the 6th November, 1850.

WELBY JACKSON, *Vice-President*.

FLETCHER HAYES, *Secretary*.

Report of Curator, Zoological Department.

To the Secretary of the Asiatic Society.

SIR,—I have this month to report the presentations of,

1. From Babu Rajendra Mullick, the carcass of a dwarf long-haired goat, from Sikim; and of a young female of the *Ovis Gmelin*, nobis, received from Bussora.

2. From R. W. G. Frith, Esq. a dead Australian Parrakeet (*Melopsittacus undulatus*).

3. From Messrs. Cook and Co. the carcass of a newly born foal, since prepared as a skeleton.

4. From Wm. Theobald, Esq., Junr. a skin of *Manis javanica*; and two specimens in spirit of *Rhenolophus lepidus*, nobis,—the latter from near Colgong. According to Mr. Theobald, only 3 or 4 pairs of this Bat inhabited the large cave in which he captured the pair presented for the Museum.

I have the honor to be, Sir,

Obediently Your's,

E. BLYTH.

Asiatic Society's Rooms, Sept. 30th, 1850.

LIBRARY.

The following books have been added to the Library since the last meeting.

Presented.

Journal of the Archæological Society of Delhi—Sept., 1850. (2 copies.)
—BY THE SOCIETY.

Report of the Revenue Administration of the Lower Provinces, for the official year 1848-9.—BY THE GOVERNMENT OF BENGAL.

Maps of the Damudah and Adji Coal Fields in the Zillahs of West Burdwan, Manbhoom and Beerbhoom, in Bengal, with sections of Coal Beds, &c. (2 sets).—BY THE SAME.

Map of Arabia, compiled from all the most recent authorities, by order of the Court of Directors of the East India Company. By John Walker, (2 copies).—BY THE SAME.

Map of the District of Cuttack, surveyed by Lieut. R. Smith, Bengal Artillery.—BY THE SAME.

Journal of the Indian Archipelago, for July and Aug. 1850, (2 copies).—BY THE SAME.

Ditto ditto, for Aug. 1850.—BY THE EDITOR.

The Oriental Baptist, No. 46.—BY THE EDITOR.

The Calcutta Christian Observer for Oct. 1850.—BY THE EDITORS.

The Oriental Christian Spectator.—BY THE EDITOR.

Meteorological Register kept at the Surveyor General's Office, Calcutta, for the month of August, 1850.—BY THE DEPUTY SURVEYOR GENERAL.

Exchanged.

The Athenæum, Nos. 1186 @ 1190.

FOR NOVEMBER, 1850.

The Society met on the 6th instant at half past 8 p. m.

Hon'ble Sir JAMES COLVILLE, President, in the Chair.

The proceedings of the last meeting were read and confirmed.

John Reddie, Esq. was named for ballot at the next meeting ; proposed by the President and seconded by Rev. J. Long.

Read letters—

1st. From J. G. Forbes, Esq., officiating Secretary, Bombay Branch of the Royal Asiatic Society, forwarding a copy of the 13th number of the Transactions of that Society.

2nd. From J. Thornton, Esq., Secretary to the Government of the North Western Provinces, announcing that the Hon'ble the Lieutenant Governor has been pleased, in compliance with the request of the Society, to direct Mr. E. A. Reade, Commissioner of the Benares Division, to give such assistance as lies in his power to Capt. Kittoe in his archaological researches in that district, when the important duties which now occupy his time and talents admit of his attention being diverted.

3rd. From D. W. Mitchell, Esq., Secretary to the Zoological Society of London, communicating the thanks of that institution for the Journal of the Asiatic Society for December, 1847, to July, 1849, presented to it by the Society.

4th. From Capt. George M. Siddons, 1st Light Cavalry, forwarding a translation of the Vichitra Nátaka, a text book of the Sikhs. Referred to the Oriental Section.

5th. From Dr. Seyffarth, Librarian of the German Oriental Society, (*Deutsche Morgenlandische Gesellschaft*) returning thanks for the following donations, viz. Dr. Hæberlin's Sanskrita Anthology, and *Bibliotheca Indica* Nos. 1 to 14.

6th. From C. Gubbins, Esq., Agra, communicating a Daily Register of Temperature kept during a part of 1850, at Meerut. Ordered to be published in the Journal.

7th. From Dr. A. Campbell, Darjeling, forwarding a paper on the storms of Tibet, in reply to the queries published in the 3rd number of the Journal.

Ordered—that the best thanks of the Society be conveyed to Dr. Campbell, and the paper be printed in the Journal.

8th. From C. Morehead, Esq., Superintendent, Grant Medical College, presenting copies of the Report of the College for 1845 to 1850.

9th. From Capt. A. Fytche, presenting a slab of stone with a Sanskrit (?) Inscription in the Gupta character, from Arracan.

Capt. Fytche being present at the meeting thanks of the Society for the donation were tendered him in person by the President.

10th. The Council submitted the following report on the Museum of Economic Geology.

Report on the Museum of Economic Geology.

Although this is not the kind of report which I could have desired to present to the Society, inasmuch as it does not give a just idea of what has been done, and omits wholly the important points of the nature of the work, and the hinderances the Museum labours under; being in fact but a brief extract from a much longer report; yet as the Council think it quite sufficient, I have the honour to submit it, in compliance with their wishes.

The question of the “Progress” of the Museum may be considered in so many lights that it must be replied to generally. Its progress then as regards additions to its collections though not equal to what has been obtained in former years is still good, when we consider that, depending upon voluntary contributions, it must always, and necessarily, be very slow in a country like India where so few persons, even if with the knowledge and opportunities required, can afford to collect for us. As regards its arrangements and registry it has been, as from the commencement, kept completely arranged and catalogued, and as regards the different researches carried on, the successful ones and those worth publishing will partly be found in the Society’s Journal as it appears,* and in my report when published, and others will be brought forward as soon as *complete*, and if of sufficient importance to occupy space in the Journal.

The following is a list of Collections presented to the Museum of Economic Geology, July, 1849 to July, 1850.

Dr. Spilsbury.

Capt. Sherwill, Cape Specimens.

————— Burra Burra Mines.

————— Deoghur Copper.

————— Beerbhoom ditto.

————— Ditto Coal.

* We have but five numbers for 1849-50, July to July yet published.

Captain Wallace, Labuan Coal, &c.

Captain Brooke, Zinc from Rajpootana.

Messrs. Duncan and Sweetland, Rajmehal Geological Specimens.

Captain Campbell, Bundlecund, ditto ditto.

Mr. Theobald, Junr., Survey (Rocks) from the Burdwan district.

Drs. Campbell and Hooker from Bootan, Geological Specimens.

Mr. Homfray, Ball Coal.

Mr. Theobald, Junr. ditto.

Mr. Torrens, Iron from Beerbhoom.

Rev. Mr. Thomas from Ava, Bezuar Stone.

Lieut. Fell, I. N. from Diamond Island, Coal Lignite and Rocks.

List of Papers for the Journal published and unpublished.

On yellow earth from Sikkim.

— Calderite.

— Ball Coal.

— Ditto ditto.

— Haughtonite.

— Drs. Campbell and Hooker's specimens from Sikkim.

— Catalogue of presentations to the Museum from 1814 to 1850.

A Preliminary Report to government on the Deoghur Copper ores.

H. PIDDINGTON,

Curator, Museum, Economic Geology.

Ordered—that the report be received and laid on the table.

Mr. Piddington, by special permission from the Deputy Governor, as he said, read to the meeting a service letter in which he had communicated to the Government, the discovery of silver ores in the rubbish of the Deoghur copper mines. The ores are known to Peruvian miners under the name of *Pacozi*, and though they contain silver in such appreciable portions that it is only extractable to profit by the curious Spanish process of amalgamation as carried on in those countries, yet they form the staple of the richest Mexican mines from their vast abundance.

Specimens of the ore, and of those from Mexico and Peru, as well as of the silver extracted from Indian specimens were shewn, and Mr. P. added that though the season had prevented his obtaining from Captain Sherwill more than a small additional supply, he had been able to obtain a good average produce from mere surface specimens.

Dr. Roer, Secretary Oriental Section, submitted a letter on the part

of the Section, regarding the publication of translations in the Bibliotheca Indica.

The letter having been read, after some discussion, it was moved by Mr. Mitchell, seconded by Mr. Colvin, and resolved *nem. con.* that the letter be referred to the Council for consideration and report.

A report was read from the Council, submitting a Draft of a proposed Code of Bye-Laws for the Society: whereupon it was moved by the Hon'ble the President, seconded by Mr. J. R. Colvin and resolved—That the Draft of the proposed Code of Bye-Laws be printed and circulated among the Members, including those resident in the Mofussil, prior to its being finally considered at a Special General meeting to be held on Wednesday the 18th of December.

It was also resolved, proposed by Mr. Welby Jackson and seconded by the president, that Mofussil Members be required to vote *yes* or *no* to each rule. Further that should a Mofussil Member make any suggestion of amendment, the Secretary will bring it to the notice of the meeting, and, in the event of any Member present supporting the suggestion, it can be disposed of as any other motion; if not so supported, the suggestion will not be considered by the meeting.

Confirmed 4th December, 1850.

Signed J. COLVILE, *President.*

FLETCHER HAYES, *Secretary.*

LIBRARY.

The following books have been added to the Library since the last meeting.

Presented.

Transactions of the Bombay Geographical Society; vol. IX. PRESENTED BY THE SOCIETY.

A Catalogue of the Library of the Hon'ble East India Company. London 1845.—BY THE HON'BLE EAST INDIA COMPANY.

Transactions of the Zoological Society of London. Vol. III. p. 5.—BY THE SOCIETY.

Journal of the Indian Archipelago, for October 1850.—BY THE EDITOR.

The Oriental Christian Spectator for Sept. 1850.—BY THE EDITOR.

The Calcutta Christian Observer for Nov. 1850.—BY THE EDITORS.

The Oriental Baptist, No. 47.—BY THE EDITOR.

The Upadeshaka, No. 47.—BY THE EDITOR.

La Patrie, No. 245 for 3rd Sept. 1850.—BY THE EDITOR.

Tattwabodhiní Patriká, No. 87.—BY THE TATTWABODHINI' SABHA'.

Meteorological Register kept at the Surveyor General's Office, Calcutta, for the month of Sept., 1850.—BY THE DEPUTY SURVEYOR GENERAL.

Proceedings of the Zoological Society of London for 1849.—BY THE SOCIETY.

The Citizen, for Sept. and Oct. 1850.—BY THE EDITOR.

Exchanged.

Calcutta Review No. 27.

Purchased.

Journal des Savants for July, 1850.

Comptes Rendus for July, 1850.

Annals and Magazine of Natural History for Aug. and Sept. 1850.

Cyclic Tables of Hindu and Mohammadan Chronology. By C. P. BROWN.

North British Review No. 26.

Edinburgh Review No. 185.

MUSEUM OF ANTIQUITIES.

From Capt. A. Fytche. A large stone with a Sanskrita (?) Inscription from Arracan.

FOR DECEMBER, 1850.

The usual monthly General Meeting was held on the evening of the 4th instant, at half-past 8. P. M.

HON'BLE SIR JAMES COLVILE, KT. President, in the chair.

The proceedings of the last meeting having been read, a verbal alteration in the minutes was suggested and agreed to, and the proceedings were confirmed.

J. Reddie, Esq., duly proposed and seconded at the November meeting was balloted for, and elected an ordinary member.

Hon'ble J. C. Erskine, Resident at Nepal, was named as a candidate for election at the next meeting ; proposed by B. H. Hodgson, Esq. and seconded by the President.

Read letters—

—From Baron Von Hammer Purgstall, presenting a copy of the "Vienna Review" and some of his academical speeches, for the Society's Library, and stating that he has not received the Journal for January and March 1849.

This communication gave rise to a protracted conversation as to the steps to be taken to accelerate the circulation of the Society's publications in Europe. It was ultimately proposed by Mr. R. Houston seconded by the President, and resolved—that Professor Wilson be requested to aid the Asiatic Society with his advice and co-operation in this matter. The best thanks of the Society were also voted to the Baron Von Hammer Purgstall, and the Nos. of the Journal wanted were ordered to be forwarded to him.

—From R. Clarke, Esq., Honorary Secretary to the Royal Asiatic Society, London, conveying the thanks of that Institution for the following donations to its Library, viz. "Bibliotheca Indica," Nos. 1—14, and Hæberlin's Anthology.

—From E. Clibborn, Esq., Acting Secretary to the Royal Irish Academy, tendering thanks for the donation of the Journal of the Asiatic Society Nos. 166 to 202, and enquiring if the earlier volumes of the work could not be procured for the Academy.

Ordered that the Secretary write to Mr. Clibborn for a memorandum of the volumes required.

—From N. Shaw, Esq., Secretary to the Royal Geographical Society of London, acknowledging receipt of the Journal, Nos. 204—5.

—From Mons. E. Mulsant, Secretary to the Société National d'Agriculture, Histoire Naturelle, et Arts Utiles de Lyon, presenting a copy of the XI. volume of the Society's Transactions.

—From the Editor of the *Hindu Intelligencer* newspaper, requesting that a copy of the Journal as it appears monthly, may be presented to him gratis, as at present furnished to the Editors of the daily papers in Calcutta.

Ordered—that the Society do not think it desirable to extend the privilege in question to the Editors of Weekly papers.

A paper was read from B. H. Hodgson, Esq., descriptive of the horns of a Tibetan Stag, supposed to be identical with *Cervus Affinis*, Hodg. Ordered for publication in the Journal.

Some questions being asked about the Draft Code of Rules to be discussed at the special general meeting on the 18th instant, the President explained that it is desirable to afford time to the members at distant stations to express their sentiments on the subject, and accordingly moved that the special general meeting for the consideration of the Draft Code of Rules be postponed to 15th January, 1851. Mr. H. Torrens seconded the motion, when it was put to the vote and carried nem. con.

A list of donations to the Library having been laid on the table the Meeting adjourned.

Confirmed 8th January, 1851.

J. COLVILE, *President*.

F. HAYES, *Secretary*.

LIBRARY.

The following books have been added to the library since the last meeting.

Presented.

Annales des Sciences Physiques et Naturelles, d'Agriculture et d'Industrie, publiées par la Société national d'Agriculture, etc. de Lyon. Tome XI.

—PRESENTED BY THE SOCIETY.

Rgya-char-rolpa, ou Developement des Jeux, contenant l'Histoire du Buddha Sakya Muni, Traduit sur la version Tibétaine par P. E. Faucaux. Paris, 1848, 4to.—BY THE TRANSLATOR.

Chrestomathie Hindie et Hindouie, Paris, 1850, 4to.—BY MONS. GARCIN DE TASSY.

Zakarija ben Mohammad ben Mahmud el Cazwini's Kosmographie. Erster Thiel. Die كتاب عجائب المخلوقات Wunder der Schopfung. Herausgegeben von F. Wustefeld. Zweites Heft. Gottingen, 1849.—BY THE EDITOR.

Vergleichende Grammatik des Sanskrita, Zend, Griechischen, Lateinischen, Litthauischen, Altslawischen, Gothischen und Deutschen, von Franz Bopp. Funfte Abtheilung. Berlin, 1849.—BY THE AUTHOR.

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Meteorological Register kept at the Surveyor General's Office, Calcutta, for the Month of January, 1850.

Date.	Observations made at Sun-rise.						Maximum Pressure observed at 9h. 50m.						Observations made at apparent noon.					
	Temperature.			Wind.			Aspect of Sky.			Temperature.			Wind.			Temperature.		
	Bar. F. to	Of Mer.	Of Air.	W. Bulb.	Wind.	Aspect of Sky.	Bar. F. to	Of Mer.	Of Air.	W. Bulb.	Wind.	Aspect of Sky.	Bar. F. to	Of Mer.	Of Air.	W. Bulb.	Wind.	Aspect of Sky.
1	Inches	°	°	°	°	°	Inches	°	°	°	°	°	Inches	°	°	°	°	°
2	38.047	58.0	59.3	57.2	Calim.	Clear	30.100	68.4	70.2	63.2	N.N.E.	Clear	30.057	77.6	76.7	65.8	N.	Clear
3	..	60.0	60.8	59.3	Do.	Foggy	.110	70.4	71.6	64.9	E.N.E.	Cirro-strati	.058	78.2	77.4	67.7	N.	Cirro-strati
4	.058	61.2	61.6	60.6	Do.	Ditto	.131	70.2	70.8	64.0	E.N.E.	Ditto	.067	77.3	75.4	66.3	N.W.	Ditto
5	.043	63.0	62.9	60.0	Do.	Cirro-strati	.127	68.9	69.7	63.0	N.E.	Ditto	.069	76.9	77.0	66.3	N.	Ditto
6	.084	60.8	61.0	59.2	N.N.W.	Ditto	.113	69.4	67.9	63.7	N.N.W.	Ditto	.069	74.6	73.3	66.2	N.N.W.	Scatd. Clouds
7	.065	59.1	69.2	58.4	N.N.W.	Ditto	.113	69.4	69.0	63.3	Do.	Cloudy	.058	72.3	72.0	65.3	N.	Cirro-strati
8	29.968	61.4	61.8	59.3	N.N.	Ditto	.019	68.8	69.0	63.0	Do.	Cirro-strati	29.958	74.0	73.2	65.1	N.W.	Ditto
9	.915	58.0	58.9	56.9	Calim.	Cirro-cumuli	29.968	67.8	67.8	61.0	Do.	Cloudy	.898	71.1	69.9	60.3	N.	Cloudy
10	.892	55.0	55.0	53.8	Do.	Clear	.972	68.2	69.4	61.2	N.	Clear	.916	75.2	74.3	63.3	N.W.	Clear
11	.925	58.0	58.9	57.2	Do.	Ditto	.982	70.1	72.0	65.2	Do.	Ditto	.932	79.2	79.0	68.0	N.N.W.	Ditto
12	.943	61.8	62.1	61.2	Do.	Ditto	30.017	73.0	75.0	69.7	N.E.	Ditto	.975	81.0	80.5	..	N.W.	Ditto
13	.971	65.0	65.4	63.8	N.	Cirro-cumuli	.065	69.2	69.0	65.2	N.	Cloudy	30.026	71.7	71.2	66.0	N.W.	Cloudy
14	30.002	61.2	61.3	57.2	N.	Ditto	.052	66.3	66.3	61.0	Do.	Cirro-cumuli	.009	71.8	70.4	61.6	N.	Cirro-cumuli
15	29.960	60.8	61.0	58.9	N.E.	Ditto	.050	66.3	66.3	60.7	Do.	Cloudy	.019	66.0	65.2	60.4	N.N.W.	Cloudy
16	.977	58.8	59.8	58.0	N.N.	Ditto	.051	66.0	66.8	62.3	Do.	Cirro-cumuli	.003	73.7	74.0	65.4	N.	Cirro-cumuli
17	.992	60.7	60.5	58.0	N.N.W.	Clear	.059	67.2	67.6	58.3	N.N.W.	Clear	.007	73.0	72.8	60.5	N.N.W.	Clear
18	..	..	..	..	....	....	..	..	..	..	....	....	..	..	..	..	....	....
19	..	..	..	..	....	....	..	..	..	..	....	....	..	..	..	..	....	....
20	.989	55.9	55.3	51.4	N.N.W.	Cirro-strati	.043	65.2	66.2	57.0	N.N.W.	Clear	29.993	72.3	71.4	59.7	N.W.	Cirro-cumuli
21	.979	55.8	56.2	54.7	Calim.	Cirro-cumuli	.040	68.0	69.2	60.5	N.E.	Cirro-strati	.972	78.0	77.3	63.8	N.W.	Cloudy
22	30.000	56.3	56.0	53.7	N.N.W.	Clear	.059	63.0	64.0	56.3	N.N.W.s.	Clear	.995	70.3	69.4	58.0	N.	Clear
23	29.958	53.6	54.0	50.0	N.N.E.	Ditto	.014	63.4	64.3	56.2	N.sharp.	Cirro-strati	.948	70.0	69.0	57.2	N.N.E.	Ditto
24	.972	51.0	51.2	48.8	Calim	Cirro-strati	.039	62.0	63.0	54.0	N.N.W.	Ditto	.962	69.8	69.2	55.5	N.sharp.	Cirro-strati
25	.958	50.9	51.6	46.9	N.N.W.	Clear	.006	63.6	64.3	53.7	N.W.	Clear	.938	70.2	69.8	56.4	N.N.W.sp	Clear
26	.873	51.8	51.8	48.9	N.W.	Ditto	29.924	63.9	64.3	54.4	N.W.sp.	Ditto	.859	71.8	71.8	58.0	N.W.sp	Ditto
27	.902	50.7	51.2	47.2	Calim.	Ditto	.973	65.2	66.0	55.9	N.	Ditto	.915	71.8	71.9	56.3	N.W.	Ditto
28	.956	51.1	51.2	49.4	Do.	Ditto	30.031	66.2	68.0	57.2	N.E.	Ditto	.979	75.3	74.8	59.2	W.S.W.	Ditto
29	30.010	54.2	54.3	50.3	Do.	Ditto	.079	68.6	70.4	65.0	N.	Ditto	30.022	78.0	77.7	65.2	S.W.	Ditto
30	.036	57.0	56.2	56.4	Do.	Foggy	.091	66.2	67.8	65.7	S.W.	Ditto	.027	78.6	78.2	65.7	S.W.	Ditto
31	.014	59.4	60.0	59.7	Do.	Ditto	.048	71.2	72.1	67.2	Do.	Ditto	29.977	80.7	80.7	69.0	S.W.	Ditto
Mean	29.984	57.5	57.8	55.6	....	....	30.045	67.3	68.1	61.2	....	....	29.989	74.3	73.7	62.7	....	....

Meteorological Register, continued.

Observations made at 2h. 40m.										Minimum Pressure observed at 4 p. m.										Observations made at sun set.																
Bar. red. to 32° F.			Temperature.			Wind.			Aspect of Sky.			Bar. red. to 32° F.			Temperature.			Wind.			Aspect of Sky.			Bar. red. to 32° F.			Temperature.			Wind.			Aspect of Sky.			
Inches.	°	'	Of Mer.	Of Air.	W. Bulb.	Inches.	°	'	Of Mer.	Of Air.	W. Bulb.	Inches.	°	'	Of Mer.	Of Air.	W. Bulb.	Inches.	°	'	Of Mer.	Of Air.	W. Bulb.	Inches.	°	'	Of Mer.	Of Air.	W. Bulb.	Inches.	°	'	Of Mer.	Of Air.	W. Bulb.	
29.991	79.9	78.8	65.1	.....	Clear	29.983	79.8	78.2	65.2	N. W.	.....	29.985	76.2	74.0	65.9	N. W.	.....	79.8	67.6	55.3	.....	.....	.....	29.985	76.2	74.0	65.9	N. W.	.....	79.8	67.6	55.3	.....	.....	.....
.985	80.2	79.2	67.6	N. W.	Cirro-strati	.981	80.9	79.2	68.3	WSW	Cirro-strati	.989	77.3	75.4	67.3	Calm	Ditto	81.2	70.3	59.4	103.2	.....	.....	.989	77.3	75.4	67.3	Calm	Ditto	81.2	70.3	59.4	103.2	.....	.....	.....
.987	79.8	79.2	68.7	N. W.	Ditto	.983	79.5	78.3	68.9	N. W.	Ditto	.983	76.2	75.0	69.0	N. W.	Cirro-strati	81.8	71.6	61.9	101.7	.....	.....	.983	76.2	75.0	69.0	N. W.	Cirro-strati	81.8	71.6	61.9	101.7	.....	.....	.....
.988	80.3	79.3	67.6	N. W.	Ditto	.987	80.2	79.3	68.2	N. W.	Ditto	.983	76.2	75.0	69.0	N. W.	Cirro-strati	81.9	72.6	63.2	99.0	.....	.....	.983	76.2	75.0	69.0	N. W.	Cirro-strati	81.9	72.6	63.2	99.0	.....	.....	.....
.985	76.1	76.3	66.8	N. W.	Cirro-cumuli	.977	76.0	75.3	65.1	NNW	Cirro-cumuli	30.004	76.3	75.3	66.8	N. W.	Ditto	77.1	69.2	61.2	90.0	.....	.....	30.004	76.3	75.3	66.8	N. W.	Ditto	77.1	69.2	61.2	90.0	.....	.....	.....
.961	77.3	76.7	65.7	N. W.	Cirro-strati	.954	76.4	75.4	65.0	NNW	Cirro-strati	29.988	73.5	72.8	65.7	N. W.	Cirro-strati	78.8	69.1	59.3	100.8	.....	.....	29.988	73.5	72.8	65.7	N. W.	Cirro-strati	78.8	69.1	59.3	100.8	.....	.....	.....
.893	74.6	73.8	64.0	NNW	Ditto	.892	74.8	73.5	63.5	N. W.	Ditto	.954	76.4	75.4	65.0	NNW	Cirro-strati	76.3	69.1	61.9	99.3	.....	.....	.954	76.4	75.4	65.0	NNW	Cirro-strati	76.3	69.1	61.9	99.3	.....	.....	.....
.834	73.8	73.0	63.1	N. W.	Cirro-cumuli	.820	75.1	73.8	61.1	NNW	Cirro-cumuli	.824	70.8	69.0	59.4	NNW	Clear	81.6	68.4	55.1	104.6	.....	.....	.824	70.8	69.0	59.4	NNW	Clear	81.6	68.4	55.1	104.6	.....	.....	.....
.855	79.3	79.0	65.3	N. W.	Cirro-cumuli	.819	80.1	78.8	65.2	N. W.	Clear	.855	76.7	74.6	65.6	N. W.	Ditto	84.6	71.6	58.5	105.6	.....	.....	.855	76.7	74.6	65.6	N. W.	Ditto	84.6	71.6	58.5	105.6	.....	.....	.....
.864	83.2	82.8	69.3	N. W.	Ditto	.859	83.4	82.4	69.8	N. W.	Ditto	.871	79.4	77.0	70.0	Calm	Ditto	85.6	74.0	62.3	107.8	.....	.....	.871	79.4	77.0	70.0	Calm	Ditto	85.6	74.0	62.3	107.8	.....	.....	.....
.897	84.2	83.2	70.0	N. W.	Ditto	.881	84.0	82.7	70.1	W. SW.	Ditto	.935	72.9	72.4	66.4	NNW	Cloudy	73.9	67.5	61.0	90.0	.....	.....	.935	72.9	72.4	66.4	NNW	Cloudy	73.9	67.5	61.0	90.0	.....	.....	.....
.954	74.8	73.8	67.0	N. W.	Cloudy	.935	71.4	70.2	61.1	N. W.	Scatter'd clouds	.923	86.0	66.2	62.3	NNW	Ditto	67.3	64.2	61.0	.....	.....	.....	.923	86.0	66.2	62.3	NNW	Ditto	67.3	64.2	61.0	.....	.....	.....	.....
.947	66.8	66.3	61.4	NNW	Drizzly	.921	66.4	66.2	61.8	N. W.	Drizzly	.922	74.9	73.6	64.8	N. W.	Cirro-cumuli	80.0	69.2	58.4	97.5	.....	.....	.922	74.9	73.6	64.8	N. W.	Cirro-cumuli	80.0	69.2	58.4	97.5	.....	.....	.....
.927	78.5	77.2	66.0	N. W.	Cirro-cumuli	.918	79.0	77.5	66.1	N. W.	Cirro-cumuli	.950	73.3	71.6	59.6	N. W.	Clear	77.8	69.3	60.7	96.4950	73.3	71.6	59.6	N. W.	Clear	77.8	69.3	60.7	96.4
.944	76.4	76.0	61.9	N. W.	Clear	.938	76.8	74.8	59.7	NNW	Clear
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Meteorological Register kept at the Surveyor General's Office, Calcutta, for the Month of February, 1850.

Date.	Observations made at Sun-rise.					Maximum Pressure observed at 9h. 50m.					Observations made at apparent noon.						
	Temperature.			Wind.	Aspect of Sky.	Bar. F. to 32°	Temperature.			Wind.	Aspect of Sky.	Bar. F. to 32°	Temperature.			Wind.	Aspect of Sky.
	Of Mer.	Of Air.	W. Bulb.				Of Mer.	Of Air.	W. Bulb.				Of Mer.	Of Air.	W. Bulb.		
1	Inches	60.2	60.8	58.8	N. W.	30.013	71.5	71.6	64.2	E.	Cirro-strati	29.954	79.0	78.3	65.5	N. E.	Clear
2		59.2	62.6	56.0	N.	.047	68.9	69.0	59.5	N. E.	Cirro-cumuli	.998	75.1	75.0	62.9	N.	Cirro-strati
3S		59.2	60.6	58.3	N.	.188	70.3	70.2	62.3	N. E.	Cumuli	30.146	75.8	74.8	64.3	N.	Cumuli
4		58.0	58.0	55.2	Calm.	.237	70.0	70.4	60.2	N.	Clear	.182	76.2	75.0	62.0	N.	Clear
5		57.0	57.0	53.0	Do.	.189	68.7	69.9	59.2	N.	Ditto	.125	76.2	75.4	59.0	N. N. W.	Ditto
6		54.2	54.4	51.0	Do.	.147	66.0	67.2	58.3	N.	Ditto	.081	76.2	76.1	60.8	N. N. W.	Ditto
7		55.8	55.4	52.3	Do.	.139	70.1	71.3	60.0	N. N. E.	Ditto	.094	77.7	77.1	62.8	N.	Ditto
8		57.0	57.7	55.2	Do.	.202	72.0	73.0	62.5	N.	Ditto	.156	79.3	79.0	64.2	N. N. W.	Ditto
9		60.3	60.4	56.8	N.	.212	71.5	72.3	62.9	N. N. W.	Cirro-cumuli	.151	79.7	79.8	66.9	N. W.	Cirro-cumuli
10S		..	..	..	....	..	..	..	..	....	....	..	..	..	..	....	....
11		..	..	..	....	..	..	..	..	....	....	..	..	..	..	....	....
12		..	..	..	....	..	..	..	..	....	....	..	..	..	..	....	....
13		..	..	..	....	..	..	..	..	....	....	..	..	..	..	....	....
14		59.9	60.8	59.2	N. W.	.060	73.5	74.3	64.0	S. S. W.	Clear	.014	81.3	81.6	66.2	S. S. W.	Clear
15		64.8	65.3	64.7	S. W.	.070	73.6	74.2	67.4	S. S. W.	Ditto	.028	82.0	81.9	67.0	W. S. W.	Ditto
16		64.7	64.2	64.2	Calm.	.061	73.1	75.0	69.1	N. N. W.	Ditto	.027	83.8	83.8	66.8	W.	Ditto
17S		63.8	64.0	59.8	Do.	.071	78.3	79.2	66.4	N. E.	Ditto	.022	85.0	84.4	66.8	E.	Ditto
18		63.6	64.2	58.5	N.	.072	76.3	77.6	65.7	N. E.	Ditto	.033	83.5	84.0	67.6	N.	Ditto
19		66.0	66.7	60.2	N.	.084	77.0	78.3	66.8	N. E.	Ditto	.046	84.9	83.9	68.2	N.	Ditto
20		64.0	65.8	62.3	N. E.	.038	78.2	78.8	67.0	N. E.	Cirro-strati	.002	85.7	85.7	70.4	S. S. E.	Cirro-strati
21		67.0	67.4	62.0	N.	.024	69.6	68.7	62.4	N. N. W.	Drizzly	29.970	78.0	78.3	69.8	N.	Cirro-cumuli
22		65.4	65.8	63.3	N. E.	.019	69.7	69.8	67.2	S. S. E.	Cirro-strati	.988	79.0	78.5	68.4	S. E.	Clear
23		66.7	65.9	65.3	N. N. E.	.085	71.3	71.4	68.7	N.	Cumuli	30.040	78.1	77.3	70.2	E.	Cumuli
24S		66.2	66.6	66.3	S.	.043	73.0	73.0	71.0	N. W.	Ditto	29.991	81.2	81.2	70.2	N. W.	Ditto
25		70.2	70.5	69.8	S.	.002	78.2	78.8	72.3	S. W. sp.	Ditto	.948	84.8	84.7	72.7	S. W.	Ditto
26		..	..	..	....	..	..	..	..	....	....	..	..	..	..	....	....
27	
28		67.2	67.0	67.0	N. N. W.	29.993	72.9	72.2	69.0	N. N. W.	Cumuli	.961	78.6	78.8	70.0	N. N. W.	Cumuli
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..	
Mean	30.033	62.4	62.8	60.0	30.091	72.4	73.0	64.8	30.044	80.1	79.8	66.5

[*Meteorological Register, continued.*]

Observations made at 2h. 40m.						Minimum Pressure observed at 4 p. m.						Observations made at sun-set.						Rain Gauges.				
Temperature.			Wind.	Aspect of Sky.	Bar. red. to 32° F.	Temperature.			Wind.	Aspect of Sky.	Bar. red. to 32° F.	Temperature.			Wind.	Aspect of Sky.	Maximum and Minimum Thermometer.		In sun's rays.	Feet.		Moon's phases.
Of Mer.	Of Air.	W. Bulb.				Of Mer.	Of Air.	W. Bulb.				Of Mer.	Of Air.	W. Bulb.			Max.	Mean.		Min.	Upper.		Lower.
Inches	84.1	83.7	69.6	S. W.	Cirro-cumuli	29.881	84.1	82.9	69.3	S. W.	Cirro-cumuli	29.879	80.0	78.0	68.7	S.S.W.	Cirro-cumuli	85.8	73.1	60.3	103.0	1
.948	78.0	76.5	63.2	N. W.	Cirro-strati	.951	76.2	74.9	62.6	N. W.	Ditto	.979	73.2	72.6	62.5	N.	Scatter'd clouds	79.7	71.1	62.4	97.2	2
30.087	79.3	78.3	65.5	N. W.	Cumulo-strati	30.080	76.7	75.8	64.0	N. W.	Cumuli	30.101	74.8	73.3	64.4	N. W.	Cumuli	81.0	70.2	59.3	102.7	3
.087	79.0	78.3	62.4	N.	Clear	.076	78.8	77.2	62.3	N. W.	Clear	.087	75.3	73.3	62.6	N. W.	Clear	80.5	69.4	58.3	102.0	4
.042	79.1	77.8	60.8	N. W.	Ditto	.025	79.5	77.8	61.3	N. W.	Ditto	.035	75.3	73.2	60.2	N.	Ditto	80.9	69.0	57.0	101.7	5
29.997	79.4	78.2	59.8	N. W.	Ditto	29.978	79.0	78.2	60.0	N. W.	Ditto	29.988	75.0	73.1	60.2	N. W.	Ditto	81.0	67.8	54.6	100.3	6
30.030	80.4	80.2	63.0	N. W.	Ditto	30.023	80.9	79.7	62.7	N. W.	Ditto	30.041	75.9	73.9	62.2	W.	Ditto	82.6	69.3	56.0	103.6	7
.085	82.8	82.4	64.3	N. W.	Ditto	.079	83.2	82.0	64.0	N.	Ditto	.089	78.8	76.8	64.4	N. W.	Ditto	84.1	70.9	57.7	104.6	8
.085	82.8	81.9	69.2	N. W.	Cirro-strati	.074	80.8	80.0	69.7	W. N. W.	Cloudy	.082	76.8	75.3	66.0	W.	Cloudy	83.6	72.0	60.4	97.3	9
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	10
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	11
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	12
29.929	84.2	84.0	65.5	S. S. W.	Cumuli	29.920	84.4	83.9	66.3	W. S. W.	Cumuli	29.930	78.7	77.8	65.6	S.	Clear	85.4	72.9	60.4	102.2	13
.947	86.7	86.4	67.3	W. S. W.	Clear	.937	87.2	86.4	66.8	W. S. W.	Clear	.954	81.6	77.8	68.3	W.	Ditto	88.0	76.7	65.3	108.2	14
.947	87.0	86.3	67.2	W. S. W.	Ditto	.926	87.5	86.3	67.7	W. S. W.	Ditto	.922	82.3	78.8	67.8	S. W.	Ditto	88.8	76.7	64.5	109.8	15
.951	87.7	86.3	66.4	N. W.	Ditto	.937	87.6	85.8	66.0	N. W.	Ditto	.938	83.0	81.2	66.3	N. W.	Ditto	89.1	76.5	63.8	110.0	16
.949	87.0	87.0	68.3	N. N. E.	Ditto	.925	86.9	85.2	66.7	N. W.	Ditto	.921	82.4	81.4	66.6	N.	Ditto	88.5	76.2	63.9	105.8	17
.951	88.3	88.0	69.3	N.	Ditto	.931	89.0	87.2	68.0	N. W.	Ditto	.933	83.6	82.2	69.6	W.	Ditto	90.0	77.8	65.5	112.0	18
.931	86.0	85.0	68.9	W. S. W.	Cloudy	.921	84.1	83.7	68.9	N. W.	Cloudy	.934	80.4	80.3	67.3	N. W.	Cloudy	89.6	77.0	64.3	105.0	19
.879	82.4	81.7	69.6	E.	Cumuli	.855	83.8	82.0	69.4	N. E.	Cumuli	.863	79.8	78.8	68.3	E.	Scatter'd clouds	83.8	75.3	66.8	102.0	20
.900	82.0	82.0	69.6	W. S. W.	Ditto	.876	82.8	80.8	69.5	W.	Ditto	.877	79.8	78.7	69.8	S. W.	Cumuli	84.0	74.8	65.6	106.0	21
.949	82.3	81.2	71.2	N. W.	Cumulo-strati	.928	83.1	80.3	71.0	N. E.	Ditto	.944	79.0	78.0	70.3	N. N. W.	Clear	84.0	75.0	66.0	106.2	22
.908	81.4	82.8	67.2	W. N. W.	Cumuli	.898	84.3	84.0	68.2	W. N. W.	Ditto	.893	81.2	79.2	69.9	S.	Ditto	85.9	75.9	65.9	107.6	23
.873	87.1	86.2	74.3	S. W.	Cumulo-strati	.863	86.2	85.2	70.6	S. W.	Cumulo-strati	.876	80.3	79.8	70.0	S. S. W.	Cumuli	88.2	79.3	70.3	103.0	24
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	25
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	26
.869	81.2	80.2	70.3	N. N. W.	Cumuli	.885	80.7	79.3	69.3	N. N. W.	Clear	.902	76.9	75.2	68.2	N.	Clear	82.0	74.6	67.2	100.8	27
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	28
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	29
29.966	83.2	82.5	67.0	..	..	29.953	83.0	81.8	66.6	..	..	26.962	78.8	77.2	66.3	..	..	84.8	73.8	62.5	104.1	30

Meteorological Register kept at the Surveyor General's Office, Calcutta, for the Month of March, 1850.

Observations made at Sun-rise.				Maximum Pressure observed at 9h. 50m.				Observations made at apparent noon.							
Date.	Temperature.			Aspect of Sky.	Bar. ³² F. red. to	Temperature.			Aspect of Sky.	Bar. ³² F. red. to	Temperature.			Aspect of Sky.	
	Of Mer.	Of Air.	W. Bulb.			Of Mer.	Of Air.	W. Bulb.			Of Mer.	Of Air.	W. Bulb.		
1	Inches	65.2	65.8	65.0	Clear	30.034	76.8	77.4	72.6	Cumuli	29.983	83.3	83.8	72.0	Clear
2	29.981	70.7	71.2	70.4	S. E.	.966	79.2	80.0	78.2	W. S. W. Clear	.975	85.8	86.0	68.0	W. S. W. Ditto
3	8.96	70.8	71.0	70.4	S. S. W.	29.943	81.6	82.3	70.3	S. W. sp. Ditto	.880	90.0	90.7	70.8	S. sharp. Ditto
4	8.82	68.7	68.5	61.0	S. W.	.920	81.5	82.3	66.2	W. Ditto	.867	89.0	89.0	67.0	W. N. W. Ditto
5	9.05	65.0	64.8	60.0	W.	.970	82.2	83.0	63.2	W. N. W. Ditto	.925	87.0	87.2	62.9	W. sharp. Ditto
6	8.66	66.0	66.8	66.0	W.	.933	80.0	81.0	68.6	N. W. Ditto	.882	88.7	87.9	66.0	W. S. W. Ditto
7	8.89	67.1	67.2	65.2	N.	.963	81.0	83.0	73.2	E. S. E. Ditto	.912	90.9	90.5	69.2	W. S. W. Ditto
8	8.83	67.1	67.2	62.9	S. W. Ditto	.928	81.3	82.8	68.6	S. W. Ditto	.877	92.0	92.5	68.2	W. Ditto
9	8.17	71.8	72.2	71.7	S. W. Foggy	.867	80.0	80.7	74.0	S. W. Ditto	.824	90.1	89.9	70.2	W. Ditto
10	7.35	69.3	69.8	64.3	W. N. W. Clear	.802	85.0	85.4	67.0	W. N. W. Ditto	.764	90.3	89.8	65.8	W. S. W. sp. Ditto
11					.....					.....					.....
12	7.80	74.2	75.0	73.0	S.	.838	81.6	81.3	75.8	S. S. W. Clear	.795	89.2	88.7	76.0	S. S. W. Clear
13	7.70	75.7	76.0	74.0	W.	.794	83.7	82.8	75.5	S. S. E. Cirro-cumuli	.780	89.3	89.2	76.3	S. Cirro-cumuli
14	7.71	71.8	72.2	71.2	S. E.	.832	82.9	83.0	77.7	S. S. W. Cumuli-strati	.790	87.6	85.4	77.5	N. W. Cumuli
15	8.16	75.0	75.5	74.2	S. E.	.857	83.8	83.8	77.0	S. S. W. Cumuli	.822	88.2	88.0	78.0	S. S. W. Ditto
16	8.58	69.4	69.7	68.2	E. S. E. Cirro-cumuli	.915	79.3	80.0	74.8	S. Ditto	.883	86.3	85.3	76.7	S. S. E. Ditto
17	9.74	67.3	67.8	65.5	N. E.	30.033	71.5	71.5	68.3	N. Cloudy	30.019	88.0	83.0	67.2	N. E. Rain & thundg.
18	30.010	66.3	66.5	65.5	Cumuli	.071	77.6	75.9	70.2	N. E. Clear	.020	82.0	81.0	70.3	N. W. Clear
19	0.37	68.8	69.2	68.9	N. E.	.085	80.5	80.2	75.2	E. Cumuli	.041	87.0	85.7	71.2	S. Cumuli
20	29.974	69.6	70.3	69.0	Clear	.021	81.7	81.4	74.4	S. W. Ditto	29.979	86.3	86.2	74.7	S. W. Ditto
21	9.01	72.0	72.4	71.3	S. W.	29.965	82.8	83.0	76.0	S. W. Clear	.909	89.7	89.8	77.0	W. Clear
22					.....					.....					.....
23	9.52	69.8	70.3	66.0	W. N. W. Ditto	.917	83.3	86.9	71.9	W. N. W. Ditto	.985	93.0	92.2	68.5	N. W. Ditto
24	30.000	69.3	69.7	63.7	N. W. Ditto	.058	89.2	88.8	69.0	S. W. Ditto	80.025	93.7	92.8	66.8	S. S. W. Ditto
25	29.997	72.0	72.8	70.7	S. W. Cirro-strati	.063	84.5	84.4	73.2	W. Ditto	.025	91.3	90.8	71.5	Cumuli
26	9.85	71.8	72.0	70.3	S. W. Clear	.047	85.3	85.0	74.0	S. W. Ditto	.009	92.7	93.0	74.2	S. W. Clear
27	9.87	72.2	72.9	70.2	S. W. Ditto	.045	85.8	85.6	74.2	S. W. Ditto	29.994	92.3	92.3	72.1	S. W. Ditto
28	9.99	72.9	73.0	71.3	N. E. Ditto	29.971	85.8	85.9	78.0	S. W. Ditto	.921	93.8	94.0	78.3	S. W. Ditto
29					.....					.....					.....
30	8.63	76.2	77.0	75.0	N. E. Cumuli	.897	87.0	85.3	75.3	N. W. Ditto	.864	91.6	90.6	74.2	N. N. W. Cirro-cumuli
31	8.74	75.6	75.8	73.0	S. E. Clear	.917	89.0	87.5	68.3	N. N. W. Ditto	.862	92.3	91.8	69.2	N. N. W. Clear
Mean	29.903	70.4	70.8	68.5	29.924	82.4	82.5	73.8	29.915	88.6	88.3	69.2

[Meteorological Register, continued.]

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Meteorological Register kept at the Surveyor General's Office, Calcutta, for the Month of April, 1850.

Observations made at Sun-rise.										Maximum Pressure observed at 9h. 50m.										Observations made at apparent noon.									
Date.	Temperature.			Wind.	Aspect of Sky.	Bar. 32° F. red. to	Temperature.			Wind.	Aspect of Sky.	Bar. 32° F. red. to	Temperature.			Wind.	Aspect of Sky.												
	Of Mer.	Of Air.	W. Bulb.				Of Mer.	Of Air.	W. Bulb.				Of Mer.	Of Air.	W. Bulb.														
1	77.0	77.5	75.2	N. W.	Cirro-strati	29.854	87.0	85.9	78.2	S. W.	Cirro-strati	29.882	91.0	90.4	79.4	S. W.	Cumuli												
2	73.0	73.3	70.0	S.	Cirro-cumuli	.865	86.3	86.8	75.2	S. W.	Ditto	.879	93.2	92.7	75.3	W. S. W.	Cirro-strati												
3	76.8	77.0	74.0	S. W.	Cloudy	30.015	88.3	88.3	76.2	N. W.	Cirro-cumuli	.986	93.3	93.0	73.8	N. E.	Ditto												
4	78.0	78.5	76.3	S. W.	Cirro-strati	29.971	89.2	88.0	77.8	S.	Cirro-strati	.917	93.8	93.3	78.0	S. W.	Ditto												
5	75.3	72.3	69.0	N. W.	Ditto	.991	85.8	73.4	73.4	W. N. W.	Ditto	.950	91.7	91.3	75.0	S. W.	Ditto												
6	76.0	76.5	72.5	N. N. W.	Ditto	30.037	88.7	86.9	72.0	N. N. W.	Clear	30.003	92.0	91.2	73.9	N. N. W.	Cirro-cumuli												
7	78.7	76.0	72.3	N. W.	Clear	29.930	90.0	89.4	74.9	W.	Ditto	29.884	94.4	94.4	74.7	W.	Cirro-strati												
8	79.6	78.0	75.2	S. W.	Cirro-cumuli	.857	82.4	82.6	70.2	N. W. sp.	Cloudy	.854	86.7	85.5	72.3	N.	Cloudy												
9	82.1	76.1	73.3	S.	Ditto	.870	88.0	87.0	76.7	S. E.	Clear	.825	93.1	92.8	76.4	S. W.	Cumuli												
10	..	..	..	....	.....	..	..	..	..	....	....	..	..	..	..	....	....
11	74.7	75.0	74.2	N.	Cloudy	.847	86.2	84.5	74.0	S. E.	Cirro-cumuli	.810	91.0	90.2	74.6	S. W.	Cirro-cumuli												
12	72.7	72.9	72.0	N.	Cirro-cumuli	.823	86.0	85.2	74.0	S. W.	Clear	.779	91.6	90.7	75.3	S. S. W.	Cumuli												
13	78.9	79.3	76.5	S.	Cumuli	.763	88.8	88.7	79.0	S. W. sp.	Cumuli	.708	93.4	93.0	80.6	S. W. sp.	Ditto												
14	80.5	81.0	78.0	S.	Clear	.752	90.8	90.7	81.0	S. W.	Clear	.723	96.0	95.7	79.7	W. S. W.	Clear												
15	80.7	81.5	79.4	S.	Cirro-cumuli	.773	87.2	87.7	81.3	S. W.	Cloudy	.743	95.0	95.0	78.2	S. W.	Cirro-cumuli												
16	77.3	77.0	74.0	S. W.	Ditto	.825	94.2	94.0	71.2	W. N. W.	Cirro-cumuli	.796	99.6	99.0	72.9	N. N. W.	Ditto												
17	75.9	76.4	74.0	S. S. W.	Clear	.885	92.2	91.8	74.0	S. W.	Ditto	.863	98.2	97.4	72.5	W. S. W.	Ditto												
18	79.3	80.2	77.3	S. W.	Cloudy	.850	90.2	89.8	79.0	S. W.	Clear	.824	96.3	96.3	77.3	S. W.	Clear												
19	77.2	77.7	75.8	S. W.	Cirro-strati	.831	89.3	89.3	77.8	S. W.	Cirro-strati	.775	97.4	97.3	75.0	S. W.	Cirro-strati												
20	76.2	76.8	70.8	S. E.	Ditto	.854	88.7	87.7	73.3	S. W.	Cloudy	.827	94.0	93.0	73.2	S. W.	Cirro-cumuli												
21	76.8	77.0	75.4	S. W.	Cirro-cumuli	.888	90.2	89.4	79.0	S. W.	Clear	.851	95.2	94.7	77.0	S. W.	Clear												
22	76.9	77.2	72.7	S. W.	Ditto	.909	89.0	88.2	76.4	W.	Cirro-strati	.872	92.3	91.6	76.8	W. N. W.	Clear												
23	77.0	76.8	71.3	W. N. W.	Cirro-strati	.851	94.2	93.3	76.4	W. N. W.	Cirro-cumuli	.804	96.2	94.2	77.2	W.	Cirro-cumuli												
24	76.7	76.0	70.6	N. N. E.	Cirro-cumuli	.816	88.7	87.8	72.0	N.	Ditto	.801	92.3	90.6	71.0	E.	Cloudy												
25	77.0	78.3	78.3	N. E.	Drizzly	.831	84.0	83.3	72.2	E.	Cloudy	.809	89.0	87.9	77.0	N. E.	Ditto												
26	77.7	77.8	76.2	N. E.	Rainy	.657	79.2	79.8	77.7	E.	Rainy	.642	79.6	80.0	74.6	S. E.	Rainy												
27	74.7	78.1	73.0	W. S. W.	Cloudy	.818	85.7	85.3	76.2	W. S. W.	Cumuli	.800	87.8	88.0	76.9	W. S. W.	Cumuli												
28	76.0	77.7	75.3	N. W.	Scattered clouds.	.824	87.2	86.4	78.4	W.	Clear	.791	91.8	91.2	80.4	W. S. W.	Ditto												
29	77.4	75.0	73.8	N. W.	Scattered clouds.	.824	87.2	86.4	78.4	W.	Clear	.791	91.8	91.2	80.4	W. S. W.	Ditto												
30	730	79.7	80.0	S.	Scattered clouds.	.755	88.3	88.0	80.3	S.	Cumuli	.728	91.1	90.8	81.3	S.	Ditto												
Mean	29.812	77.0	77.2	74.0	29.859	88.1	87.5	76.0	29.826	92.8	92.2	76.1												

[*Meteorological Register, continued.*]

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Meteorological Register kept at the Surveyor General's Office, Calcutta, for the Month of May, 1850.

Date.	Observations made at Sun-rise.					Maximum Pressure observed at 9h. 50m.					Observations made at apparent noon.				
	Temperature.			Wind.	Aspect of Sky.	Bar. red. to 32° F.	Temperature.			Wind.	Aspect of Sky.	Bar. red. to 32° F.	Temperature.		
	Of Mer.	Of Air.	W. Bulb.				Of Mer.	Of Air.	W. Bulb.				Of Mer.	Of Air.	W. Bulb.
1	Inches 29.717	79.4	80.2	S.	Cloudy	29.770	90.0	89.5	82.0	S. S. W.	Clear	29.743	92.3	82.4	°
2	.767	80.0	80.3	S.	Clear	.813	89.9	89.3	80.8	S. W. sp.	Ditto	.775	93.6	81.2	S. W.
3	.781	79.8	80.0	S.	Clear	.838	89.1	88.7	79.3	S. sharp.	Cumuli	.825	92.0	79.2	S. sharp.
4	.737	79.4	80.0	S.	Cumuli	.798	88.7	88.0	79.7	S. sharp.	Cumuli	.737	91.9	81.4	S. W. sp.
5	.681	81.3	82.0	S. W.	Cloudy	.716	90.0	89.3	80.3	S. W.	Clear	.673	92.8	81.7	S. W.
6	.640	80.0	80.3	S. W.	Clear	.693	88.5	88.0	81.2	S. W. sp.	Cumuli	.655	91.7	83.0	S. sharp.
7	.592	80.4	81.2	S.	Scattered clouds	.635	90.4	90.2	81.3	S. W.	Cirro-strati	.602	96.7	79.8	S. W.
8	.640	81.2	81.8	S. W.	Cirro-strati	.700	91.8	91.0	83.2	S. W.	Clear	.689	97.2	84.2	S. W.
9	.675	81.4	82.2	S.	Cumuli.	.722	91.3	90.7	82.8	S. S. W.	Cumuli	.689	95.4	83.2	S. W.
10	.679	81.9	82.0	S.	Cirro-cumuli	.730	91.2	90.0	81.4	S. W.	Cumulo-strati	.716	94.2	82.8	S. W.
11	.705	77.0	77.5	S. E.	Cirro-strati	.773	90.7	89.7	80.8	S. W.	Ditto	.748	94.5	81.8	S. S. W.
12	.754	79.4	79.6	S.	Cumuli	.784	91.4	90.5	80.8	S.	Cumuli	.749	94.4	81.8	S. W.
13	.717	81.5	82.2	S.	Ditto	.761	93.0	91.8	81.5	S.	Ditto	.720	96.2	81.5	S.
14	.675	81.5	82.0	S. E.	Clear	.717	93.2	92.2	82.4	S.	Clear	.689	98.0	82.7	S. W.
15	.682	81.2	81.8	S.	Cloudy	.701	93.3	92.0	81.4	S.	Ditto	.720	97.4	83.0	S. W.
16	.635	81.5	82.0	S.	Clear.	.679	93.3	92.5	83.0	S. W.	Cirro-strati	.666	95.8	84.0	S. sharp.
17	.673	82.1	82.6	S. S. W.	Cirro-cumuli	.735	95.0	93.8	81.5	S. W.	Cumuli	.727	97.3	80.8	S. W.
18	.762	81.9	82.2	S.	Ditto	.811	94.3	93.3	83.5	S. W.	Cirro-cumuli	.805	95.8	81.3	S. W.
19	.827	81.2	81.8	N. W.	Ditto	.866	93.3	92.7	81.5	S. S. W.	Ditto	.840	97.0	83.0	S. W.
20	.834	81.8	82.0	S.	Clear	.854	90.8	91.0	80.6	S. W.	Cumulo-strati	.805	95.2	82.5	S. W.
21	.734	81.0	81.7	S.	Ditto	.796	93.7	93.0	81.2	S.	Cumuli	.780	96.4	80.3	S. W. sp.
22	.732	81.6	82.2	S.	Cumuli.	.819	91.7	91.2	81.0	S.	Ditto	.752	95.6	80.9	S. sharp.
23	.779	81.8	82.2	S.	Cloudy	.853	89.0	88.9	79.8	S.	Cloudy	.808	91.4	80.3	S. W. sp.
24	.762	82.1	82.8	S.	Cumuli	.717	92.1	91.9	82.2	S. S. W.	.....	..	..	..	.....
25	.697	83.8	84.4	S. W. sp.	Ditto	.717	92.1	91.9	82.2	S. S. W.	Cumuli	..	..	..	.....
26	.682	76.2	76.2	N. W.	Cirro-strati	.722	90.3	90.2	80.0	W. S. W.	Cumulo-strati	.691	94.9	84.0	S.
27	.687	81.9	8.24	S. E.	Ditto	.717	92.0	91.0	82.8	W. S. W.	Cumuli	.698	97.3	83.5	S.
28	.721	75.3	75.7	W N. W.	Ditto	.739	89.2	88.0	75.3	N. E.	Clear	.709	93.0	79.8	N. E.
29	.641	82.8	83.3	S. W.	Scattered-clouds	.674	92.4	92.2	82.1	S. W.	Cumulo-strati	.632	96.5	82.0	S.
30	.642	78.4	79.2	E.	Cloudy	.676	84.8	84.2	80.2	E. N. E.	Cloudy	.667	88.4	87.0	N. E.
31	.648	78.0	78.3	E.	Cirro-strati	.674	90.4	87.8	81.3	E.	Cumuli	.659	93.8	82.4	N. E.
Mean	29.706	80.5	81.0	....	.....	29.749	91.2	90.4	81.2	....	.....	99.722	94.7	94.2	81.9

[*Meteorological Register, continued.*]

Observations made at 2h. 40m.										Minimum Pressure observed at 4 p. m.						Observations made at sun-set.						Maximum and Minimum Thermometer.			Rain Gauges.		Moon's phases.
Temperature.			Wind.	Aspect of Sky.	Bar. red. to 32° F.	Temperature.			Wind.	Aspect of Sky.	Bar. red. to 32° F.	Temperature.			Wind.	Aspect of Sky.	Max. °	Mean. °	Min. °	Max. therm. in sun's rays.	Feet. Upper. 40.	Feet. Lower. 4.					
Of Mer.	Of Air.	W. Bulb.				Of Mer.	Of Air.	W. Bulb.				Of Mer.	Of Air.	W. Bulb.													
29.633	94.1	93.3	82.0	SW sp.	Clear	29.678	93.3	92.2	81.0	ssw sp.	Clear	29.679	87.2	87.0	81.8	S.	Clear	95.3	87.7	80.0	104.6	Inch.		I			
.718	95.0	93.7	83.3	S. W.	Ditto	.693	92.7	91.2	82.7	SS.W.	Ditto	.703	86.2	86.0	80.9	S.	Ditto	96.2	88.4	80.5	106.4	"		C			
.731	93.6	92.6	81.6	S. sp.	Ditto	.709	93.0	91.5	82.1	SS.W.	Ditto	.717	86.7	86.8	79.2	sp.	Cirro-strati	94.9	87.4	79.9	104.0	"		U			
.662	92.0	90.6	81.7	SW sp.	Cloudy	.662	89.9	89.0	80.2	SW sp.	Cloudy	.647	87.3	87.0	80.0	S. W.	Cloudy	92.9	86.4	79.8	102.0	"					
						.586	92.0	91.0	80.3	S.	Cirro-cumuli	.637	88.9	87.5	80.2	S. W.	Ditto	94.6	88.2	81.7	103.4	"					
.584	93.3	92.2	83.5	S.	Cumuli	.558	91.9	90.5	83.2	S.	Clear	.564	87.3	86.8	81.0	S.	Cl. to the NW.	95.6	85.3	75.0	105.4	"					
.560	98.4	97.2	81.2	S. W.	Cirro-strati	.540	98.3	96.8	81.3	SS.W.	Ditto	.552	97.0	89.0	80.3	S. sp.	Cirro-strati	99.6	90.4	81.2	111.3	"					
.625	101.0	99.2	82.5	S. W.	Ditto	.582	100.2	98.2	83.0	S. W.	Cirro-strati	.594	92.2	91.2	82.2	S.	Clear	102.0	91.9	81.8	115.8	"					
.635	96.3	95.3	83.9	S. W.	Cumuli	.633	94.5	93.0	82.2	S. W.	Cumuli	.608	88.4	88.0	81.0	S.S.W.	Clear	97.8	89.9	82.0	107.0	"					
.647	96.0	95.1	83.0	S.	Ditto	.644	96.2	94.2	80.8	S.	Ditto	.691	90.0	89.3	80.0	S.	Cirro-strati	97.4	89.8	82.1	107.9	"					
.682	96.2	95.2	82.0	S.	Ditto	.658	94.0	92.0	82.3	S.	Ditto	.667	88.0	87.4	80.4	S.	Cloudy	97.0	86.4	75.8	109.7	"					
.680	95.2	94.5	82.6	S.	Clear	.638	96.1	94.0	80.5	SS.W.	Clear	.621	90.0	89.3	80.3	S.S.W.	Cirro-cumuli	96.8	87.9	79.0	106.7	"					
.658	97.8	97.0		SS.W.	Ditto	.610	95.2	93.4	83.0	SW sp.	Cv. to the N.E.	.661	85.0	84.8	73.3	E. S. E.	Cloudy	99.0	90.6	82.2	111.4	"					
.615	97.0	95.5	83.9	SW sp.	Cirro-strati	.595	95.3	93.4	82.4	SW sp.	Clear	.598	89.0	88.3	81.5	S.	Cirro-cumuli	98.9	90.3	81.7	109.3	"					
.634	97.3	96.0	82.2	SW sp.	Clear	.582	97.1	95.1	82.3	SS.W.	Ditto	.582	91.0	90.6	82.7	S. sp.	Clear	99.7	90.9	82.0	111.0	"					
.617	98.6	96.4	82.8	SS.W.	Cirro-cumuli	.673	99.3	97.2	82.7	S.	Cirro-strati	.673	93.0	91.8	81.8	S.S.W.	Ditto	100.7	91.6	82.5	111.3	"					
.688	99.7	98.3	82.0	SS. W.	Ditto	.716	100.0	97.8	81.4	S.	Cumulo-strati	.727	91.8	91.0	81.4	S. W.	Cl. to the NW.	100.0	90.9	81.7	110.2	"					
.745	99.2	98.6	82.2	S. W.	Clear	.746	97.9	95.8	80.0	S.	Clear	.711	91.3	90.2	79.6	S. W.	Cirro-strati	98.1	87.2	76.3	108.8	"					
.770	98.3	97.0	83.2	SS.W.	Clear	.694	97.0	95.0	78.0	S.	Ditto	.694	91.0	90.3	79.4	S.	Cumuli	100.5	91.1	81.6	111.0	"					
.729	96.7	95.8	81.6	S. sp.	Cumuli	.656	96.8	94.8	80.6	SS.W.	Ditto	.673	88.9	88.2	79.6	S.	Cumuli	99.8	90.9	82.0	109.3	"					
.675	99.0	97.0	81.0	S. sp.	Clear	.672	96.9	95.3	80.8	S. sp.	Ditto	.676	89.5	88.2	80.1	S. sp.	Cirro-strati	96.0	87.4	78.8	104.6	"					
.711	98.2	97.0	81.9	S. sp.	Clear	.709	93.9	92.4	80.3	S. sp.	Cumuli	.721	89.2	88.8	78.3	S.	Cl. to the W.	98.0	90.1	82.2	..	"					
.739	94.8	93.9	80.0	ssw sp.														99.0	91.3	83.6	..	0.50		2			
																		97.0	85.9	74.8	109.5			2			
.618	95.2	94.1	82.2	S. W.	Cumuli	.614	94.7	93.0	82.0	S.	Cumuli	.599	90.0	89.0	81.2	S.	Cirro-strati	100.8	91.3	81.8	115.3	0.42		2			
.615	100.2	99.0	83.2	S.	Cumulo-strati	.574	98.0	96.4	82.0	S.	Ditto	.617	93.3	92.4	82.2	S. W.	Cloudy	99.0	87.3	75.6	115.9			2			
.612	97.3	96.5	81.3	S. E.	Cirro-strati	.570	98.8	96.1	81.0	S. W.	Cirro-strati	.569	94.0	92.2	81.2	S. W.	Cirro-strati	99.0	91.4	83.7	113.6	0.16		2			
.585	88.0	83.6	76.3	E. sp.	Cloudy	.636	80.6	80.0	75.0	E. sp.	Cloudy	.621	78.8	78.3	75.5	N.N.W.	Rainy	99.0	91.4	83.7	113.6	1.08		2			
.608	94.8	92.7	80.6	E.N.E.	Nimbi	.597	78.7	78.8	75.0	E.	Rainy	.605	79.9	80.3	77.0	E.	Cloudy	94.3	86.0	77.7	111.0	0.34		3			
.624	80.9	79.3	75.3	S. W.	Rainy	.615	79.2	79.7	77.3	S. W.	Very c. drizzly.	.643	78.0	78.2	76.3	N.N.W.	Drizzly.	96.4	87.4	78.4	115.5			3			
29.659	95.9	94.5	81.7	....		29.636	93.4	92.5	80.8	....	....	29.646	88.4	87.8	80.0	....	....	98.0	89.2	80.3	109.5	3.30		1

Meteorological Register kept at the Surveyor General's Office, Calcutta, for the Month of June, 1870

Observations made at sun-rise.

Maximum Pressure observed at 9h. 50m.

Observations made at apparent noon.

Date.	Temperature.			Wind.	Aspect of Sky.	Bar. red. to 32° F.	Temperature.			Wind.	Aspect of Sky.	Bar. red. to 32° F.	Temperature.			Wind.	Aspect of Sky.	
	Of Mer.	Of Air.	W. Bulb.				Of Mer.	Of Air.	W. Bulb.				Of Mer.	Of Air.	W. Bulb.			
1	Inches 29.625	78.0	78.2	77.4	N.N.W.	Clear	29.656	90.9	88.7	81.6	N. N. E.	Cumuli	Inches 29.622	92.2	90.9	81.8	W.	Cumulo-strati
2S	.588	81.0	81.4	79.3	S. W.	Cirro-cumuli	.637	91.0	89.7	81.5	S. W.	Ditto	.593	95.6	94.0	82.5	S. W.	Ditto
3	.577	81.4	82.0	80.3	S. S. E.	Cirro-strati	.606	93.0	92.2	82.6	S. W.	Cirro-strati	.569	96.0	94.2	82.8	S. W.	Ditto
4	.531	78.2	78.7	76.3	W.	Ditto	.564	90.8	88.3	80.8	N. E.	Ditto	.505	94.2	92.7	80.3	N. W.	Cirro-strati
5	.487	83.3	83.9	81.7	E.	Cloudy	.513	88.1	87.6	83.1	E.	Cloudy	.432	89.8	88.7	82.9	E.	Cloudy
6	.513	79.3	79.7	77.8	E.	Ditto	.574	80.2	80.5	79.0	E.	Raining	.559	79.7	79.2	77.5	S.	Raining
7	.586	80.2	80.9	79.4	E.	Ditto	.609	90.2	88.8	82.4	E. S. E.	Cumulo-strati	.600	87.4	87.3	83.2	S. W.	Cumulo-strati
8	.582	80.3	81.0	79.8	E. S. E.	Ditto	.608	78.8	78.8	77.8	S. S. E.	Raining	.613	78.3	78.5	77.5	S. E.	Raining
9S	.564	81.0	81.8	80.8	E. S. E.	Raining	.608	80.0	80.8	79.5	S. S. W.	Ditto	.604	80.0	80.2	78.3	S. S. W.	Cloudy
10	.583	80.4	80.7	80.0	N. S. E.	Nimbi	.576	88.4	86.1	81.9	E.	Cumulo-strati	.550	89.7	88.8	82.5	E.	Nimbi
11	.500	80.3	80.7	78.5	E. S. E.	Scattered-clouds	.532	86.1	85.2	81.3	S. S. E.	Cloudy	.517	84.4	84.4	81.3	S. S. E.	Cloudy
12	.488	81.0	81.9	80.3	S.	Cloudy	.518	84.8	84.3	81.0	S. W.	Ditto	.480	87.3	86.6	82.0	S. W.	Ditto
13	.459	81.0	81.8	80.0	S. S. W.	Ditto	.437	87.8	87.0	81.0	W.	Ditto	.470	89.8	89.0	81.3	W.	Cumulo-strati
14	.440	82.3	83.0	80.7	S. W.	Ditto	.463	90.2	89.9	81.3	W. S. W.	Cirro-strati	.439	93.5	92.8	83.2	S. W.	Cirro-strati
15	.506	84.5	85.2	83.9	S.	Ditto	.550	90.2	90.0	82.0	S. W.	Ditto	.533	95.3	94.0	81.0	W.	Cirro-cumuli
16S	.558	84.2	84.3	82.8	S. E.	Cirro-strati	.585	93.7	92.2	85.2	S. W.	Cumulo-strati	.549	96.3	94.0	84.6	W.	Cumuli
17	.575	79.4	79.8	77.6	E.	Ditto	.600	92.0	89.2	81.0	E. S. E.	Cirro-cumuli	.589	94.4	92.8	83.3	E.	Cumulo-strati
18	.576	81.3	81.8	79.0	N. E.	Ditto	.595	88.1	86.4	80.2	E. S. E.	Cumulo-strati	.551	90.3	85.9	80.0	N. E.	Drizzly
19	.530	79.5	80.2	79.0	N. E.	Cloudy	.546	89.2	87.5	82.0	E. S. E.	Ditto	.508	90.2	89.4	82.4	E. N. E.	Cumulo-strati
20	.510	80.3	80.9	79.4	S. E.	Zenith-clear	.556	85.4	82.3	80.0	S.	Raining	.545	86.0	86.0	81.0	S. S. W.	Cloudy
21	.543	80.0	79.3	78.0	S.	Raining	.566	90.0	87.8	82.2	S. S. W.	Cumulo-strati	.541	90.6	88.8	82.4	S.	Nimbi
22	.511	79.4	79.9	78.3	S.	Rainy	.523	86.3	83.8	80.2	S.	Cloudy	.495	87.9	87.2	82.6	S.	Cloudy
23S	.473	80.0	80.7	79.5	S.	Ditto	.533	83.8	82.8	80.7	S. E.	Ditto	.489	84.0	82.5	80.2	S.	Ditto
24	..	..	..	..	....	.....	..	..	..	..	....	.....	.468	88.2	87.0	83.0	S. E.	Ditto
25	.468	81.0	81.8	80.7	S. S. E.	Cirro-strati	.481	91.0	89.4	83.8	S.	.....	.477	91.3	90.6	83.6	W. N. W.	Cumulo-strati
26	.427	80.0	80.9	79.0	S. W.	Ditto	.443	88.3	87.5	81.8	S.	Cumulo-strati	.477	88.2	87.3	83.0	S. S. E.	Cloudy
27	.415	80.9	81.0	79.8	E.	Cloudy	.434	86.8	85.6	81.7	S.	Ditto	.417	91.0	88.9	82.5	S.	Cumulo-strati
28	.382	81.0	81.7	80.0	E.	Zenith-clear	.397	83.9	83.4	81.5	E.	Cloudy	.403	89.3	88.0	82.3	S. E.	Cloudy
29	.332	81.0	81.7	80.0	E.	Zenith-clear	.332	83.9	83.4	81.5	E.	Drizzly	.370	86.3	85.7	82.9	E. N. E.	Ditto
30S	.329	79.8	80.6	79.0	S.	Cloudy	.368	86.2	85.4	81.8	S. S. W.	Cloudy	.340	87.0	85.4	81.5	S. E.	Ditto
Mean	29.512	80.7	81.2	79.6	....	.....	29.540	87.7	86.5	81.4	....	.....	29.512	89.1	88.0	81.7	....	.....

[*Meteorological Register, continued.*]

[illegible]

Meteorological Register kept at the Surveyor General's Office, Calcutta, for the Month of July, 1850.

Date.	Observations made at non-rise.						Maximum Pressure observed at 9h. 50m.						Observations made at apparent noon.					
	Bar. red. to 32° F.	Of Mer.	Of Air.	W. Bulb.	Wind.	Aspect of Sky.	Bar. red. to 32° F.	Of Mer.	Of Air.	W. Bulb.	Wind.	Aspect of Sky.	Bar. red. to 32° F.	Of Mer.	Of Air.	W. Bulb.	Wind.	Aspect of Sky.
1	Inches 29.396	77.4	77.9	76.4	S. S. W.	Drizzly	Inches 29.458	83.2	82.8	78.7	S. W.	Cloudy	Inches 29.469	83.5	84.0	79.1	S. sharp	Cloudy
2	.613	81.4	82.8	80.3	S. W.	Cirro-strati	.654	88.8	88.2	82.2	S. sharp	Cumulo-strati	.949	89.3	89.8	82.9	s. w. shp.	Cumulo-strati
3	.659	81.4	82.2	80.2	S. W.	Ditto	.689	89.3	89.2	83.7	S. W.	Cirro-strati	.654	89.8	89.3	82.3	W.	Ditto
4	.589	81.9	82.2	79.8	S. W.	Ditto	.633	86.7	86.5	82.4	S. W.	Ditto	.601	89.7	89.0	83.2	S. S. W.	Ditto
5	.565	82.9	83.5	71.0	W. W.	Cloudy	.579	82.4	82.8	79.0	S.	Cloudy	.569	87.8	87.2	82.2	S. S. W.	Cloudy
6	.513	82.2	83.0	81.0	S. S. W.	Ditto	.560	90.0	90.0	83.2	S. S. W.	Cirro-strati	.549	94.0	93.4	85.2	S. W.	Cirro-strati
7	.522	84.3	85.0	82.8	S. S. W.	Cirro-strati	.590	92.3	91.3	84.9	W. S. W.	Ditto	.580	96.2	95.4	84.5	W.	Ditto
8	.599	83.3	84.0	82.2	S.	Scattered-clouds	.641	92.4	91.2	86.0	S.	Ditto	.627	93.2	86.7	81.2	N. E.	Cloudy
9	.596	79.8	80.3	78.3	S. W.	Cloudy	.626	90.5	89.3	84.0	S. W.	Cumuli	.591	94.8	93.7	86.2	S. W.	Cumuli
10	.597	83.3	84.0	82.0	S. W.	Scattered-clouds.	.624	89.0	88.4	83.4	S. S. W.	Cirro-strati	.595	91.2	90.1	83.2	W. S.	Cirro-strati
11	.611	83.2	83.7	81.3	...	...	.621	90.2	89.2	82.3	...	...	.614	92.8	91.8	82.6	...	...
12	.538	82.5	83.0	81.0	S. W.	Cirro-strati	.585	89.0	88.5	82.3	S. S. W.	Cumulo-strati	.559	92.6	91.3	82.6	S. W.	Cumulo-strati
13	.516	82.8	83.3	81.3	S. W.	Ditto	.552	92.3	91.3	84.3	S. W.	Ditto	.525	94.8	93.3	86.0	S.	Cumuli
14	.565	78.3	78.8	77.8	S. E.	Cloudy	.583	88.4	86.8	82.2	S.	Cirro-strati	.567	90.5	89.0	82.4	S. W.	Cumulo-strati
15	.565	81.0	81.8	80.2	S. E.	Ditto	.597	91.9	89.0	82.9	E. N. E.	Ditto	.562	93.4	89.8	82.4	S. S. E.	Cloudy
16	.560	81.0	81.7	79.8	E. S. E.	Scattered-clouds.	.617	88.2	85.3	81.7	E. S. E.	Numbi	.615	83.1	80.8	78.4	S. E.	Raining
17	.620	80.0	80.5	79.0	E. S. E.	Cirro-strati	.655	86.8	85.3	81.8	S. E.	Cumulo-strati	.621	86.9	87.0	81.3	S.	Ninabi
18	.598	80.8	81.0	79.4	...	...	.614	90.2	89.4	82.3	...	...	.589	92.9	92.2	83.8	S. W.	Cumulo-strati
19	.526	81.5	82.0	80.3	S.	Cirro-strati	.571	88.7	88.2	83.0	S. W.	Cumuli	.546	91.2	90.5	83.5	S.	Ditto
20	.494	82.3	83.0	81.3	S.	Ditto	.515	91.8	90.7	84.7	E. S. E.	Cumulo-strati	.485	93.0	91.8	84.9	E. S. E.	Ditto
21	.471	80.9	81.3	79.6	E. N. E.	Cloudy	.469	87.0	86.2	81.2	E. N. E.	Cumulo-strati	.448	88.6	85.0	82.0	E. S. E.	Ninabi
22	.435	80.2	80.3	78.3	E. sharp.	Ditto	.457	86.2	84.9	80.2	E.	Cloudy	.422	88.9	88.0	81.8	E.	Cloudy
23	.467	79.3	79.6	78.3	S. sharp.	Raining	.477	79.4	80.0	79.0	N. N. W.	Ditto	.515	80.8	80.5	78.8	S.	Raining
24	.535	78.7	78.8	78.0	N. E.	Ditto	.599	82.2	81.3	79.2	E.	Cumuli	.552	85.3	83.6	80.2	S. E.	Cloudy
25	.520	77.5	78.0	77.0	N. E.	Cloudy	.575	84.4	83.6	79.5	E. N. E.	Cloudy	.523	89.2	87.6	81.8	E. N. E.	Cumulo-strati
26	.507	80.6	81.2	80.2	S. S. E.	Raining	.531	80.2	80.7	79.4	N. N. E.	Cumulo-strati	.501	85.7	84.0	81.3	N. N. E.	Cloudy
27	.601	82.0	82.8	81.6	S. E.	Cloudy	.613	88.2	87.2	83.0	S.	Raining	.600	91.2	90.5	83.9	S.	Cumulo-strati
28	.578	82.0	83.0	81.8	S. E.	Cumulo-strati	.589	91.5	88.8	83.8	S. S. E.	Ditto	.559	93.7	91.7	84.3	S. E.	Ditto
29	.566	82.4	83.0	81.8	S. E.	Cirro-strati	.583	90.3	89.2	84.0	N. E.	Ditto	.543	93.2	91.7	83.8	N. E.	Ditto
30																		
31																		
Mean	29.550	81.1	81.6	79.9	...	...	29.581	88.0	87.1	82.2	...	...	29.559	90.3	88.9	82.6	...	...

[*Meteorological Register, continued.*]

Observations made at 2h. 40m

Bar. red. to 32° F.	Temperature.			Wind.	Aspect of Sky.
	Of Mer.	Of Air.	W. Bulb.		
Inches	°	°	°		
29.475 80.0	81.3	78.8	sw sp.	Cloudy	
29.475 80.0	81.3	78.8	sw sp.	Cumulo-strati	
6.014 91.2	90.2	81.6	W. sp.	Cirro-strati	
6.000 90.6	90.2	81.4	S. W.	Ditto	
5.552 90.3	89.4	83.2	S.	Cloudy	
5.539 88.3	87.8	82.8	sh. p.	Cloudy	
4.993 95.7	94.3	84.6	S.	Cirro-strati	
5.550 96.4	94.3	85.8	S.	Ditto	
5.635 92.0	92.0	78.1	S. E.	Cloudy	
5.665 95.7	94.3	85.0	S. W.	Cumuli	
5.565 93.3	91.9	85.2	S.	Cirro-strati	
5.558 94.0	93.2	83.3	S. W.	Cumuli	
5.510 94.0	92.9	84.5	S. W.	Cumulo-strati	
5.510 94.3	89.3	83.3	N	Cloudy	
4.999 93.9	92.2	83.7	S. W.	Cumulo-strati	
5.221 91.6	89.5	81.2	S. E.	Ditto	
5.565 85.4	80.8	79.3	S. E.	Raining	
5.567 90.5	88.8	82.3	S. E.	Nimbi	
5.222 85.2	82.3	79.8	N.	Rain & thunder	
4.811 92.8	92.2	84.5	S.	Cumulo-strati	
4.232 96.2	94.8	83.3	E. S. E.	Ditto	
4.808 86.9	81.8	79.6	S. W.	Rain & thunder	
3.755 89.3	86.8	80.9	S. E.	Cumulo-strati	
4.934 82.2	81.9	79.3	S. E.	Cloudy	
5.164 84.0	83.0	80.7	S. S. E.	Drizzly	
4.482 86.2	84.7	80.6	N. E.	Cumulo-strati	
4.748 87.7	86.0	81.9	N.	Ditto	
5.422 93.2	92.7	83.2	S.	Ditto	
5.510 95.0	91.9	84.0	E.	Ditto	
4.492 95.4	94.5	84.0	E.	Ditto	
29.519 90.4	88.8	82.3	..	.....

Minimum Pressure observed at 4 p. m.

Bar. red. to 32° F.	Temperature.			Wind.	Aspect of Sky.
	Of Mer.	Of Air.	W. Bulb.		
Inches	°	°	°		
29.465 84.4	84.9	79.3	s.w. sp.	Cloudy	
5.594 90.1	89.2	82.9	s.w. sp.	Cirro-strati	
5.566 90.3	89.5	83.7	S. W.	Ditto	
5.519 88.3	88.0	82.6	S.	Cloudy	
5.520 87.7	87.5	82.6	sp.	Ditto	
5.501 94.3	93.3	84.1	S. S. W.	Cirro-strati	
5.527 94.3	94.0	86.0	S.	Ditto	
6.011 79.0	78.7	76.0	S.	Raining	
5.512 94.0	92.5	86.3	S.	Cloudy	
5.529 92.3	91.2	83.8	S.	Cirro-cumuli	
5.525 93.0	92.0	82.7	S. W.	Cirro-strati	
4.485 92.7	91.3	83.7	S. W.	Ditto	
5.536 79.5	78.8	77.0	N. N. W.	Raining	
4.486 90.6	89.6	83.2	S. S. W.	Cloudy	
4.499 90.6	88.2	81.4	S. E.	Ditto	
5.514 86.7	86.7	81.9	S. E.	Cumulo-strati	
5.558 87.5	87.3	83.2	S.	Ditto	
5.508 80.0	82.0	80.0	S. E.	.....
4.472 90.6	89.8	81.9	S. S. W.	Raining	
4.403 93.3	86.5	82.4	S. E.	Raining	
3.811 83.0	82.2	80.4	S. E.	Ditto	
3.356 88.2	84.9	81.9	S. E.	Cumulo-strati	
4.479 81.2	80.9	78.9	S.	Cloudy	
4.490 83.2	83.2	81.2	S. S. E.	Ditto	
4.459 85.2	84.8	80.2	N. E.	Ditto	
4.474 88.0	85.9	81.2	S.	Cumulo-strati	
5.504 93.0	90.3	82.7	S.	Cloudy	
4.489 93.0	91.4	83.0	E.	Nimbi	
4.474 95.5	93.5	83.2	S. E.	Cumuli	
29.499 88.7	87.5	82.0	.....	.....

Observations made at sun-set.

Bar. red. to 32° F.	Temperature.			Wind.	Aspect of Sky.	Maximum and Minimum Thermometer.			Rain Gauges.		Moon's Phases
	Of Mer.	Of Air.	W. Bulb.			Max.	Mean.	Min.	Upper.	Lower.	
Inches	°	°	°			°	°	°	Feet.	Feet.	
29.507 83.4	84.3	78.9	SW sp	Scatd. clouds		85.6	81.7	77.8	.....	0.40	1
6.335 85.4	85.8	81.3	SW sp	Cloudy to the W		92.8	87.4	81.9	.....	0.29	2
5.588 86.6	87.0	82.9	S.	Cirro-strati		92.4	86.1	79.8	.....	0.24	3
5.534 87.7	87.0	82.2	S.	Zenith-clear		91.6	86.7	81.8	.....	0.12	4
5.528 85.4	86.0	82.6	S. S. W.	Cloudy		89.7	85.5	81.3	.....	..	5
4.496 90.9	89.7	84.9	S. S. W.	Cirro-strati		96.7	89.8	82.9	.....	..	6
5.411 90.8	89.7	82.8	S. E.	Ditto		97.4	91.2	85.0	.....	..	7
5.578 79.4	79.8	75.9	S.	Cloudy		96.0	87.5	84.0	.....	0.14	8
5.563 87.3	86.8	80.2	S.	Ditto		96.6	88.0	79.3	.....	..	9
5.535 88.9	88.4	81.3	S. S. W.	Cirro-strati		94.6	89.0	83.4	.....	..	10
5.538 87.3	86.9	80.9	S. S. W.	.....		95.0	89.7	84.3	.....	..	11
4.493 88.2	88.0	82.8	S. S. W.	Cirro-strati		95.0	89.3	83.6	.....	..	12
5.511 78.0	77.9	76.3	S. E.	Ditto		95.0	87.3	83.6	.....	1.20	13
4.489 82.0	82.0	79.6	N. E.	Raining		94.2	85.6	77.0	.....	..	14
5.529 86.2	86.0	79.8	S. E.	Cloudy		92.9	87.2	81.5	.....	0.08	15
5.565 85.0	84.2	79.7	S. E.	Scatd. clouds		88.3	84.4	80.4	.....	0.69	16
5.587 85.4	85.0	79.6	S.	Cumulo-strati		90.0	85.2	80.3	.....	0.38	17
5.535 79.2	79.7	77.9	N. W.	Cirro-strati		90.4	85.8	81.2	.....	..	18
4.483 87.9	87.4	83.0	N. W.	Raining		94.9	88.0	81.0	.....	3.32	19
4.439 84.3	84.5	82.0	S. S. W.	Cloudy		93.8	86.8	79.8	.....	..	20
3.996 82.9	83.2	80.3	S. E.	Scatd. clouds		96.9	90.1	83.2	.....	0.42	21
3.398 83.0	81.8	80.0	S. E.	Cloudy		90.9	86.3	81.6	.....	0.92	22
5.515 80.0	80.2	78.4	S. E.	Raining		90.2	85.4	80.6	.....	1.04	23
5.517 84.0	84.2	81.2	S.	Cloudy		82.2	80.8	79.3	.....	0.64	24
4.489 83.4	83.7	79.2	S.	Scatd. clouds		86.2	82.6	79.0	.....	2.00	25
5.511 83.8	83.6	80.3	S. E.	Ditto		90.0	83.9	77.8	.....	2.50	26
5.533 87.2	87.2	83.0	S. E.	Cloudy		88.8	83.4	78.0	.....	..	27
5.533 87.2	87.2	83.0	S. E.	Scatd. clouds		95.6	88.5	81.3	.....	..	28
5.513 88.0	87.6	84.3	S. E.	Cloudy		96.3	89.6	82.8	.....	0.54	29
4.471 91.0	89.0	84.0	NNW	Cumuli		96.3	89.8	83.2	.....	..	30
29.519 85.2	85.1	80.9	.....	.....		92.7	86.9	81.2	.....	15.34	31

Meteorological Register kept at the Surveyor General's Office, Calcutta, for the Month of August, 1850.

Observations made at Sun-rise.				Maximum Pressure observed at 9h. 50m.				Observations made at apparent noon.									
Date.	Temperature.			Aspect of Sky.	Temperature.			Aspect of Sky.	Temperature.			Aspect of Sky.					
	Bar. 32° F. red. to	Of Mer.	Of Air.		W. Bulb.	Wind.	Bar. 32° F. red. to		Of Mer.	Of Air.	W. Bulb.		Wind.				
1	Inches 29.513	83.4	84.0	82.0	W.	Cirro-strati	Inches 29.564	89.8	88.5	83.4	Cloudy	Inches 29.545	91.8	90.4	83.7	W.	Cloudy
2	.475	80.7	81.5	79.3	W.N.W.	Cloudy	.515	83.0	83.8	80.8	Ditto	.482	87.2	85.2	81.3	E.	Ditto
3	.463	79.6	80.3	79.3	S. S.W.	Ditto	.516	82.0	83.2	80.8	S.S.W.	.514	86.2	86.0	82.2	S.S.E.	Ditto
4	.557	80.0	80.4	78.8	S. E.	Cirro-strati	.619	89.7	86.4	82.3	S. S. E.	.564	90.5	88.0	81.7	S. S.W.	Cumulo-strati
5	.522	82.0	82.8	81.3	S. S. W.	Cloudy	.548	88.5	87.5	81.8	Ditto	.510	91.6	90.0	81.8	W.N.W.	Ditto
6	.468	82.0	82.8	81.6	N. N. E.	Ditto	.497	88.0	83.0	83.0	Cirro-strati	.486	90.2	89.2	82.3	N.N.W.	Nimbi
7	.430	79.2	80.0	79.2	S. W.	Raining	.477	79.2	80.0	78.5	s. w. shp.	.477	80.0	80.2	78.2	s. w. shp.	Raining
8	.553	80.0	80.7	77.0	S. W.	Cloudy	.614	85.2	85.0	79.8	Cloudy	.599	85.2	85.2	80.0	s. w. shp.	Cirro-cumuli
9	..	..	..	..	....	.....	.662	87.2	87.0	82.6	Cirro-strati	.641	90.2	89.8	83.9	S.	Cumuli
10	..	..	..	..	....	.....	.728	84.0	83.8	80.3	Cloudy	.701	87.4	87.3	81.8	S. W.	Cumulo-strati
11	.672	81.2	82.0	80.0	S. S.W.	Cloudy	.737	84.2	84.0	80.2	Ditto	.715	88.0	87.6	81.9	S. W.	Cirro-cumuli
12	.706	81.0	81.8	80.3	S. S. W.	Ditto	.712	86.0	85.5	80.3	Ditto	.700	88.2	87.8	80.2	S. W.	Ditto
13	.676	81.2	82.0	80.0	S. W.	Cirro-strati	.706	88.6	88.4	82.0	S. W. Cirro-strati	.679	90.9	90.2	82.1	S. W.	Cumuli
14	.649	81.8	82.6	80.6	S. W.	Cloudy	.713	87.0	87.3	82.8	Ditto	.689	90.2	89.3	83.0	S. S. W.	Cloudy
15	.680	82.3	83.0	80.7	S. W.	Cirro-cumuli	.699	88.0	87.3	82.8	S. W. Cirro-cumuli	.669	90.2	89.2	83.3	S. S. W.	Cumulo-strati
16	.645	81.8	82.6	81.1	S. S. E.	Cloudy	.761	86.1	84.6	80.0	S. E.	.732	89.9	89.3	81.3	S. E.	Ditto
17	.719	78.0	78.6	77.3	S. E.	Cirro-strati	.832	87.6	86.0	81.0	E.	.800	88.0	86.4	81.2	E.	Ditto
18	.779	78.5	79.0	77.7	E. S. E.	Ditto	.886	83.0	80.0	77.5	Raining	.868	84.6	80.2	78.6	S.	Raining
19	.842	78.0	78.0	77.2	E.	Clear	.858	87.3	86.7	81.0	S. W. Cirro-cumulo-strati	.822	89.4	88.8	81.2	S. W.	Cumulo-strati
20	.824	78.8	79.0	78.2	S.	Cirro-cumuli	.835	85.1	84.2	80.2	Ditto	.798	87.5	87.0	81.8	S. W.	Ditto
21	.777	80.0	80.7	79.0	S. S. W.	Cumuli	.780	88.0	87.2	80.8	S. W. Cumuli	.756	90.3	90.0	82.5	S. W.	Ditto
22	.736	81.8	82.2	79.8	S. W.	Cloudy	.754	85.0	85.2	81.8	S. W. Cirro-cumulo-strati	.721	86.0	86.2	82.6	W.S.W.	Cloudy
23	.708	82.3	83.0	81.0	S. E.	Ditto	.727	88.4	86.3	81.6	S.	.696	90.0	89.2	83.0	S. S. E.	Cumulo-strati
24	.710	77.7	78.2	77.2	S. E.	Cirro-strati	.719	89.9	87.9	81.2	Ditto	.686	91.3	90.3	83.0	S.	Ditto
25	.686	80.8	80.7	79.3	S.	Cloudy	.750	86.7	86.2	81.3	S. W. Cirro-strati	.716	90.0	89.2	81.8	S. W.	Ditto
26	.703	81.2	82.0	80.4	S.	Cloudy	.811	84.6	84.7	80.3	Ditto	.785	86.8	85.6	80.0	S. S. E.	Ditto
27	.782	79.0	78.8	78.6	S. E.	Ditto	.780	88.0	87.3	81.6	Ditto	.744	90.2	89.4	82.1	S. W.	Ditto
28	.745	79.9	80.4	79.2	S.	Cirro-strati	.726	87.9	87.3	82.2	Ditto	.686	90.8	89.4	82.7	S. W.	Ditto
29	.701	81.3	81.8	80.3	S.	Ditto	..	..	..	..	.....	..	..	..	..	.....	.....
30	..	..	..	..	....	.....	..	..	..	..	.....	..	..	..	..	.....	.....
31	..	..	..	..	....	.....	..	..	..	..	.....	..	..	..	..	.....	.....
Mean	29.656	80.5	81.1	79.5	....	.....	29.697	86.3	85.7	81.2	.....	29.671	88.7	87.7	81.7	....	.....

[Meteorological Register, continued.]

Observations made at 2h. 40m.				Minimum Pressure observed at 4 p. m.				Observations made at sun-set.				Maximum and Minimum Thermometer.		Rain Gauges.	
Temperature.		Wind.	Aspect of Sky.	Temperature.		Wind.	Aspect of Sky.	Temperature.		Wind.	Aspect of Sky.	Max.	Min.	Upper.	Lower.
Bar. red. to 32° F.	Of Mer.	Of Air.	W. Bulb.	Bar. red. to 32° F.	Of Mer.	Of Air.	W. Bulb.	Bar. red. to 32° F.	Of Mer.	Of Air.	W. Bulb.	Mean.	Min.	Inch.	Feet.
29.487	90.7	89.6	84.0	29.413	91.2	90.2	84.0	92.466	88.8	88.2	84.2	91.9	88.1	100.0	Lower.
398	90.5	90.0	84.0	.377	90.2	89.4	83.3	.414	83.2	83.0	80.0	92.0	86.5	100.0	4.
.464	86.2	86.2	82.4	.449	86.4	85.7	81.3	.480	84.4	84.3	80.3	88.3	84.2	109.0	5.04
.509	89.9	87.9	82.2	.490	90.4	88.0	82.4	.508	86.0	85.4	82.4	91.0	86.3	106.3	0.08
.450	88.0	86.3	81.8	.453	84.0	83.8	81.2	.459	82.0	82.4	80.3	92.2	87.5	108.5	
.415	87.0	85.9	82.3	.386	90.0	89.6	83.7	.412	82.8	83.2	81.2	91.2	86.5	104.4	0.76
.451	80.4	80.7	78.8	.446	80.5	81.0	78.2	.478	79.7	80.0	78.0	81.5	80.4	108.4	3.32
.556	87.2	86.2	80.5	.543	87.3	87.2	81.5	.551	84.2	84.4	80.2	88.7	81.4	98.0	0.50
.586	91.0	89.6	84.2	.573	89.2	88.4	83.4	.591	82.0	82.3	80.2	91.8	87.5	100.5	0.14
												91.8	86.1	100.5	1.24
.645	85.6	84.8	81.8	.652	85.5	85.7	82.2	.684	79.3	79.8	78.2	89.5	85.9	103.8	0.36
.653	90.3	89.6	83.0	.630	88.7	88.0	82.2	.646	85.0	85.2	81.2	91.2	84.8	103.8	0.08
.618	90.8	89.8	81.0	.600	89.8	88.7	81.3	.587	86.2	86.0	81.6	93.0	86.8	105.8	
.620	92.4	91.8	82.7	.593	91.8	91.0	81.8	.629	82.2	81.9	78.3	93.6	88.1	105.0	
.603	90.0	89.2	83.2	.607	89.2	88.3	82.7	.623	81.4	81.7	78.2	91.3	86.7	97.7	
.614	90.0	89.2	82.7	.616	83.8	82.0	78.5	.647	76.8	77.0	75.7	91.0	86.5	98.0	1.62
.680	87.8	84.0	80.0	.676	83.0	82.2	79.2	.705	81.0	80.7	78.0	90.0	83.5	104.0	0.18
.733	88.5	88.0	82.0	.718	86.4	85.3	81.0	.754	82.2	82.7	78.3	89.2	84.0	104.8	0.54
.801	86.2	85.0	79.2	.775	83.5	81.3	78.3	.794	83.2	82.8	78.8	88.0	83.2	98.6	0.22
.756	87.2	86.2	79.0	.742	85.0	83.2	79.5	.752	82.0	82.3	80.4	90.8	84.9	104.0	0.10
.714	90.3	89.6	82.4	.688	88.0	88.9	82.1	.705	86.2	86.0	81.0	91.3	86.2	106.7	
.677	92.8	92.0	82.9	.659	92.2	91.2	84.4	.697	86.7	86.8	82.0	93.7	88.0	109.0	
.674	85.7	85.6	82.5	.652	82.0	80.2	78.2	.681	80.0	80.4	78.4	97.0	83.8		
.653	84.8	85.3	81.0	.616	83.6	83.2	79.0	.623	84.5	84.7	81.0	91.7	84.5	107.3	0.16
.630	91.3	90.0	82.0	.613	88.0	87.0	81.8	.621	85.2	85.2	80.8	92.8	86.7	107.0	
.701	81.0	79.8	78.2	.682	79.0	79.0	77.7	.701	80.0	80.2	78.3	90.5	85.0	102.0	0.24
.719	89.0	88.1	80.0	.702	88.7	87.2	80.3	.716	85.0	85.0	80.8	90.4	85.0	106.8	
.685	91.6	90.2	82.2	.655	89.0	86.6	81.0	.654	86.0	85.7	81.3	92.2	86.4	105.2	
.611	93.4	92.6	83.0	.598	90.8	90.2	82.9	.601	86.4	86.4	82.3	94.6	88.1	110.8	

Meteorological Register kept at the Surveyor General's Office, Calcutta, for the Month of September, 1850.

Date.	Observations made at Sun-rise.					Maximum Pressure observed at 9h. 50m.					Observations made at apparent noon.				
	Temperature.			Wind.	Aspect of Sky.	Temperature.			Wind.	Aspect of Sky.	Temperature.			Wind.	Aspect of Sky.
	Bar. 32° F. red. to	Of Mer.	Of Air.			Bar. 32° F. red. to	Of Mer.	Of Air.			Bar. 32° F. red. to	Of Mer.	Of Air.		
1S	Inches 29.756	82.3	82.8	S.	Cirro-cumuli	Inches 29.811	89.2	87.6	S. E.	Cirro-cumuli	Inches 29.762	91.0	89.0	E.	Cumulo-strati
2	.777	80.0	80.3	S. E.	Cirro-strati	.849	88.6	86.6	E. S. E.	Cumulo-strati	.795	92.2	90.2	S. E.	Ditto
3	.779	80.3	81.0	S. E.	Cirro-strati	.837	89.1	87.4	S. W.	Ditto	.790	92.7	90.6	S. W.	Ditto
4	.748	81.6	82.5	S. S. W.	Clear	.784	90.0	89.5	S. W.	Cirro-strati	.763	91.6	90.3	S. W.	Ditto
5	.718	83.3	84.0	S. W.	Scattered-clouds	.792	85.2	83.6	N. W.	Cirro-strati	.728	89.6	89.9	S. W.	Cirro-strati
6	.732	81.4	82.3	N. E.	Cloudy	.755	88.7	86.3	S. E.	Ditto	.713	89.0	86.4	S. S. E.	Cloudy
7	.658	79.8	80.4	N. E.	Cirro-strati	.674	87.4	86.6	S. W.	Cumulo-strati	.639	90.7	90.4	S. W.	Cumulo-strati
8	.614	81.0	81.6	S.	Ditto	.650	89.0	88.3	S. W.	Ditto	.616	91.8	90.4	S. W.	Ditto
9	.627	81.5	82.3	S. E.	Ditto	.674	88.8	86.2	S. E.	Cirro-strati	.662	87.3	83.3	S.	Raining
10	.636	81.3	82.0	E. S. E.	Cloudy	.660	87.2	85.8	S. S. E.	Cumulo-strati	.618	90.6	89.3	S. E.	Cumulo-strati
11	.569	81.4	82.3	S. E.	Ditto	.608	83.6	84.7	N. E.	Cloudy	.536	88.0	86.8	S. W.	Cloudy
12	.524	81.6	82.4	N. W.	Ditto	.574	82.2	82.7	N. E.	Raining	.501	86.4	85.3	N. N. W.	Drizzly
13	.518	79.0	80.0	N. W.	Ditto	.548	85.2	84.2	N.	Cloudy	.496	86.4	85.3	N. W.	Cloudy
14	.485	80.0	80.6	N. W.	Ditto	.525	82.4	82.6	W.	Ditto	.456	81.4	81.8	S. W.	Drizzly
15	.619	79.6	80.2	S. E.	Ditto	.680	87.6	86.2	S.	Cumuli	.638	90.0	89.3	S.	Cumuli
16	.744	78.3	79.4	N. E.	Cirro-strati	.784	88.7	86.8	S. W.	Cumulo-strati	.734	91.5	90.0	E. S. E.	Cumulo-strati
17	.695	80.0	80.8	S. W.	Ditto	.733	87.3	85.2	E.	Ditto	.684	91.0	89.3	S. E.	Ditto
18	.658	80.3	81.0	S. S. E.	Ditto	.699	89.1	87.4	S. E.	Ditto	.678	90.8	88.7	S. E.	Ditto
19	.668	80.2	80.8	S. E.	Ditto	.732	89.2	87.6	E. S. E.	Raining	.680	91.0	88.9	E. S. E.	Ditto
20	.715	80.5	81.0	N. N. E.	Cloudy	.779	76.0	76.8	N. E.	Cumulo-strati	.774	75.7	76.2	E.	Raining
21	.741	76.3	76.9	N. E.	Ditto	.763	84.0	83.8	N. E.	Ditto	.722	85.7	84.3	N. E.	Scattered-clouds
22	.723	76.0	76.3	N. E.	Ditto	.748	81.8	81.0	E.	Cloudy	.706	82.2	82.4	N. E.	Cloudy
23	.661	76.4	76.8	E.	Raining	.692	78.8	79.6	E.	Ditto	.664	83.5	83.4	E.	Ditto
24	.675	76.8	77.3	E.	Drizzly	.718	82.0	80.6	E.	Ditto	.681	81.9	80.9	E.	Ditto
25	.689	78.0	78.7	E.	Cloudy	.722	78.9	79.0	S. E.	Ditto	.690	79.4	80.0	E. S. E.	Drizzly
26	.822	78.0	79.0	E.	Nimbi	.875	82.4	81.8	S. E.	Ditto	.847	85.8	85.3	E. S. E.	Nimbi
27	.918	77.8	78.8	E.	Scattered-clouds.	.958	86.4	85.2	S. E.	Cumulo-strati	.920	85.2	82.7	E. S. E.	Cumulo-strati
28	.903	77.4	77.8	S. E.	Ditto	.964	84.5	84.0	S. E.	Ditto	.924	87.5	85.0	N. E.	Ditto
29S	.903	77.4	77.8	S. E.	Cloudy	.948	85.3	83.2	S. E.	Ditto	.889	88.8	87.8	S. E.	Ditto
30	.903	75.8	76.3	S. S. W.	Foggy	.935	85.4	83.8	S. S. W.	Ditto	.893	89.2	87.8	S. E.	Ditto
Mean	29.707	79.5	80.1	....	.....	29.749	85.4	84.5	....	.....	29.711	87.4	86.3	....	.....

[*Meteorological Register, continued.*]

[illegible]

Meteorological Register kept at the Surveyor General's Office, Calcutta, for the Month of October, 1850.

Date.	Observations made at Sun-rise.				Maximum Pressure observed at 9h. 50m.				Observations made at apparent noon.			
	Temperature.			Wind.	Temperature.			Wind.	Temperature.			Aspect of Sky.
	Bar. red. to 32° F.	Of Mer.	Of Air.		Bar. red. to 32° F.	Of Mer.	Of Air.		Bar. red. to 32° F.	Of Mer.	Of Air.	
1	Inches	°	°	°	Inches	°	°	°	Inches	°	°	Cumulo-strati
2	..	..	..	...	30.067	87.0	87.0	S. W.	29.911	89.0	82.0	Ditto
3	..	..	..	...	.030	88.0	88.0	S.	30.029	89.0	83.0	Cloudy
4	..	..	..	...	.035	89.0	88.0	S. S. W.	29.970	90.0	85.0	Cirro-cumuli
5	..	..	..	...	..	..	..	...	.970	90.0	81.5	Ditto
6	..	..	..	...	..	..	..	...	.795	91.8	..	Cumulo-strati
7	..	..	..	...	..	..	..	...	.766	89.8	83.8	Ditto
8	..	..	..	...	..	..	..	...	.778	91.0	..	Ditto
9	..	..	..	...	..	..	..	...	..	..	..	.....
10	..	..	..	...	..	..	..	...	..	..	..	.....
11	..	..	..	...	..	..	..	...	..	..	..	.....
12	..	..	..	...	..	..	..	...	..	..	..	.....
13	..	..	..	...	..	..	..	...	..	..	..	.....
14	..	..	..	...	..	..	..	...	..	..	..	.....
15	..	..	..	...	..	..	..	...	..	..	..	.....
16	..	..	..	...	..	..	..	...	..	..	..	.....
17	..	..	..	...	..	..	..	...	..	..	..	.....
18	..	..	..	...	..	..	..	...	..	..	..	.....
19	..	..	..	...	..	..	..	...	..	..	..	.....
20	..	..	..	...	..	..	..	...	..	..	..	.....
21	..	..	..	...	30.067	82.0	81.6	N. E.	30.017	83.9	77.0	Cloudy
22	..	..	..	...	.047	83.8	83.0	N. E.	29.982	87.8	79.0	Cumulo-strati
23	30.019	75.3	75.5	N. E.	29.967	84.9	84.9	N. E.	.901	86.0	84.8	Ditto
24	29.927	76.2	76.7	N. E.	961	85.8	85.3	N. E.	.905	88.5	87.3	Ditto
25	.906	77.8	78.8	N. E.	.942	84.8	83.0	N.	.906	81.6	77.8	Cloudy
26	.917	76.2	77.2	S. W.	.905	83.8	83.8	W.	.850	86.4	80.0	Cumulo-strati
27	.866	75.2	75.5	S.	.825	86.0	85.4	W.	.767	88.9	81.2	Ditto
28	.795	78.6	79.5	S.	.829	79.8	80.3	W. S. W.	.769	87.0	82.0	Cumuli
29	.794	78.0	78.2	N. W.	.860	84.5	84.2	N.	.880	87.6	85.3	Cirro-strati
30	.825	76.2	76.5	N. W.	.941	81.3	81.2	N. W.	.895	86.0	71.9	Ditto
31	.912	71.0	71.4	N. W.	..	..	..	...	..	..	..	.....
Mean	29.885	76.1	76.6	....	29.959	84.7	84.3	....	29.885	87.9	80.3	.....

[*Meteorological Register, continued.*]

Observations made at 2h. 40m.					Minimum Pressure observed at 4 p. m.					Observations made at sun-set.					Maximum and Minimum Thermometer.				Rain Gauges.		Date.
Bar. red. to 32° F.	Of Mer.	Of Air.	W. Bulb.	Aspect of Sky.	Bar. red. to 32° F.	Of Mer.	Of Air.	W. Bulb.	Aspect of Sky.	Bar. red. to 32° F.	Of Mer.	Of Air.	W. Bulb.	Aspect of Sky.	Max.	Mean.	Min.	Max. Therm. in sun's rays.	Upper. Feet. 4.	Lower. Feet. 4.	
Inches					Inches					Inches					°	°	°	°	Inch.	Inch.	
29.908	90.0	89.5	82.0	S. W. Cirro-cumuli																	
..	..	..	..	.....	..	..	..	..	.....	..	..	..	..	.....	..	..	..	..	..	1.77	..
29.942	84.4	83.4	77.0	N. E. Cloudy	29.926	82.8	82.3	77.3	N. E. Cloudy	29.937	80.3	80.0	76.0	N. E. Scatd. clouds	86.0	82.8	75.8	..	..	..	0.14
.901	86.0	85.0	78.3	N. W. Cumulo-strati	.895	86.2	85.3	78.4	N. Cumulo-strati	.903	84.0	83.0	78.3	N. W. Cumulo-strati	89.8	83.5	77.2	106.0	..	..	..
.837	88.6	88.0	78.3	S. W. Ditto	.831	89.0	87.7	77.6	W. Cirro-cumuli	.850	85.2	83.9	79.3	S. W. Ditto	89.8	83.5	77.2	107.4	..	..	..
.841	87.1	83.9	78.4	S. S. E. Ditto	.853	80.0	78.9	75.0	S. Cloudy	.867	78.4	78.3	75.3	S. Raining	90.1	84.5	78.8	..	..	..	..
.840	83.3	83.0	77.4	S. W. Ditto	.831	83.5	82.4	76.9	S. Cirro-strati	.847	81.0	80.4	76.4	S. E. Cirro-cumuli	86.0	81.5	77.0	..	..	..	..
.762	84.5	84.0	79.4	S. W. Cloudy	.780	84.7	84.8	80.3	S. W. Drizzly	.786	83.1	82.8	78.6	S. S. E. Cloudy	88.0	81.9	75.0	..	..	..	..
.693	89.0	87.5	79.9	N. W. Cumulo-strati	.696	88.2	87.0	80.3	N. W. Cumulo-strati	.699	86.0	85.2	80.3	W. Cirro-strati	91.2	85.6	79.9	..	..	..	..
.693	89.3	88.2	81.0	N. W. Ditto	.698	87.5	86.3	80.3	N. W. Ditto	.723	85.5	85.2	80.5	N. W. Ditto	90.3	84.3	78.2	..	..	..	..
.779	85.8	84.7	73.0	N. W. Cirro-strati	.772	84.9	83.0	71.8	N. W. Cirro-strati	.788	82.2	80.4	74.4	N. W. Ditto	88.0	82.2	76.4	..	..	..	..
.835	87.3	86.7	72.3	WSW Clear	.834	86.5	85.2	71.5	W. Clear	.846	82.0	80.3	73.3	W. Clear	89.0	80.1	71.2	..	..	..	..
29.830	86.8	85.8	77.9	.....	29.812	85.3	84.3	76.9	.....	29.825	82.8	82.0	77.2	.....	88.8	82.9	76.6	106.7	..	..	3.61

Meteorological Register kept at the Surveyor General's Office, Calcutta, for the Month of November, 1850.

Date.	Observations made at Sun-rise.				Maximum Pressure observed at 9h. 50m.				Observations made at apparent noon.			
	Temperature.			Wind.	Temperature.			Wind.	Temperature.			Aspect of Sky.
	Bar. F.	Of Mer.	Of Air.		Bar. F.	Of Mer.	Of Air.		Bar. F.	Of Mer.	Of Air.	
1	Inches 29.910	70.8	71.5	N. W.	Inches 29.934	82.8	83.0	S. W.	Inches 29.885	86.3	85.8	Clear
2	.913	73.0	73.5	S. W.	.947	84.1	84.5	S. W.	.886	88.0	87.0	Ditto
3	..	..	..	....	..	..	..	....	..	..	..	....
4	..	..	..	....	..	..	..	....	..	..	..	....
5	..	..	..	....	.967	80.2	81.0	N. W.	.912	85.0	83.8	Clear
6	.945	69.2	70.3	N.	.938	81.3	82.0	E.	.928	85.0	84.9	Cumulo-strati
7	.957	73.2	73.5	N.	30.004	81.6	82.0	N.	.957	86.2	85.0	Cumuli
8	.959	76.0	76.3	N. N. E.	.006	77.7	78.0	N. N. E.	.975	81.0	80.3	Cloudy
9	.934	74.0	74.3	N. W.	29.977	76.7	76.7	N. W.	.901	80.9	80.5	Ditto
10	.878	75.0	75.3	N. E.	.919	76.7	76.8	N. E.	.876	78.2	78.0	Ditto
11	..	..	..	....	.798	78.0	78.8	N. E.	.752	77.2	77.3	Ditto
12	..	..	..	....	..	..	..	....	..	..	..	....
13	..	..	..	....	..	..	..	....	..	..	..	....
14	..	..	..	....	..	..	..	....	..	..	..	....
15	..	..	..	....	..	..	..	....	..	..	..	....
16	..	..	..	....	..	..	..	....	..	..	..	....
17	.970	68.0	68.7	N. W.	30.004	78.0	78.0	N. W.	.962	81.9	81.0	Cumuli
18	.946	65.5	66.0	N.	.004	78.3	78.0	N. N. W.	.968	82.0	81.5	Ditto
19	.857	65.9	65.9	N. W.	29.971	76.0	76.3	N. N. W.	.930	81.3	81.5	Ditto
20	.874	64.0	64.3	N. W.	.915	75.9	75.6	N. W.	.961	81.2	80.3	Ditto
21	30.009	61.9	62.8	N. W. W.	.938	75.0	75.5	W.	.900	79.0	79.2	Clear
22	63.4	64.3	64.3	N. N. W.	30.063	76.0	76.6	N. N. W.	30.012	82.0	81.7	Ditto
23	.056	62.7	63.0	N. N. W.	.110	76.0	76.4	N. N. W.	.052	82.2	81.8	Ditto
24	.067	63.7	64.0	N. N. W.	.087	72.0	72.0	N. N. W.	.032	77.8	77.0	Ditto
25	.063	63.3	64.3	....	.088	75.3	75.0	N.	.050	78.7	77.4	Ditto
26	.053	62.0	63.0	N. W.	.109	74.5	74.8	N.	.072	78.1	77.5	Ditto
27	.020	60.2	61.3	N.	.096	73.6	74.0	N. N. W.	.045	78.5	77.5	Ditto
28	.073	62.0	62.7	N.	.085	73.0	73.8	N.	.036	78.2	77.8	Cirro-strati
29	.078	63.8	64.5	N.	.115	73.0	73.6	N.	.082	73.2	73.0	Clear
30	.068	60.0	61.0	N.	.144	72.3	73.0	N. N. W.	.086	76.4	76.0	Ditto
Mean	29.985	66.5	67.2	....	30.015	76.5	76.7	....	29.967	80.6	80.1	....

[*Meteorological Register, continued.*]

Observation made at 2hs. 40m.				Minimum Pressure observed at 4 p. m.				Observations made at sun-set.				Maximum and Minimum Thermometer.			Rain Gauges.		Moon's Phases.	
Bar. red. to 32° F.	Of Mer.	Of Air.	W. Bulb.	Aspect of Sky.	Bar. red. to 32° F.	Of Mer.	Of Air.	W. Bulb.	Temperature.	Wind.	Aspect of Sky.	Max.	Mean.	Min.	Upper.	Lower.		Feet.
29.811	87.3	87.0	71.8	S. W.	Clear	29.806	86.6	85.5	71.8	S. W.	Clear	29.809	83.4	82.2	73.3	S. W.	Clear	17.6
.815	89.2	88.2	75.2	N. W.	Ditto	.807	88.4	87.0	75.5	W.	Ditto	.817	85.8	84.0	74.7	N. W.	Ditto	
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	177
..	
.863	85.8	84.7	70.2	N. W.	Clear	.861	84.5	82.9	68.9	N. W.	Clear	.877	81.2	80.0	69.9	N. W.	Clear	110.0
.869	86.9	85.4	71.9	E.	Cumulo-strati	.872	84.9	82.9	71.3	N. E.	Cumulo-strati	.888	81.8	80.6	71.9	N.	Scatd. clouds	
.903	85.4	84.8	73.3	N.	Cumuli	.902	84.5	82.9	70.2	N. E.	Cumulo-strati	.918	82.8	82.9	74.3	N. N. E.	Cloudy	108.5
.949	79.4	79.1	74.4	N. E.	Cloudy	.941	77.5	77.0	73.7	N. W.	Cloudy	.949	76.7	76.6	73.6	N. W.	Ditto	
.853	81.7	80.5	75.3	N. W.	Ditto	.854	79.3	79.5	74.6	N. N. W.	Ditto	.865	78.7	79.0	74.6	N. N. W.	Ditto	107.2
.830	79.0	78.9	74.0	N.	Ditto	.840	78.0	77.2	72.3	N. N. W.	Ditto	.851	76.0	76.3	72.7	N.	Ditto	
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	105.3
..	
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	105.8
..	
.904	83.0	81.8	70.3	N. W.	Clear	.902	82.8	81.3	70.4	N. N. W.	Cumuli	.930	75.0	74.3	70.2	N. N. W.	Cirro-strati	105.8
.904	83.0	82.2	69.7	N. N. W.	Cumuli	.902	82.0	80.3	69.0	N. W.	Clear	.908	78.3	77.0	69.0	N. N. W.	Clear	
.850	82.8	82.0	69.7	N. W.	Clear	.852	81.9	80.5	68.3	W.	Ditto	.862	77.8	76.4	68.9	N. W.	Ditto	102.0
.791	82.4	82.1	70.3	N. W.	Ditto	.782	81.6	80.2	69.0	N. N. W.	Ditto	.790	78.9	77.8	68.6	N. N. W.	Ditto	
.845	81.2	81.0	66.3	W.	Ditto	.843	80.3	79.2	65.0	W.	Ditto	.858	77.2	75.8	65.5	W.	Ditto	102.0
.954	83.0	82.2	66.2	W.	Ditto	.948	82.2	80.2	65.0	N. W.	Ditto	.961	78.0	75.2	68.0	N. N. W.	Ditto	
.987	83.4	82.6	66.5	N. W.	Ditto	.982	81.8	80.3	65.0	N. W.	Ditto	.991	77.6	76.0	66.3	N. W.	Ditto	105.8
.970	79.4	78.6	66.9	N. N. W.	Ditto	.970	78.8	77.5	66.3	N. N. W.	Ditto	.980	76.0	75.0	66.8	N. N. W.	Ditto	
.983	80.8	79.7	67.8	N. W.	Ditto	.977	80.0	78.4	66.3	N. N. W.	Ditto	.987	78.0	76.4	66.4	N. N. W.	Ditto	105.8
.996	80.5	79.2	67.0	N. N. W.	Ditto	.978	79.0	78.0	66.8	N.	Ditto	.989	75.5	74.5	66.5	.....	.....
.967	80.0	79.0	66.0	N. N. W.	Cirro-strati	.978	79.0	77.2	64.4	N. N. W.	Ditto	.977	75.5	73.7	64.8	N. N. W.	Cirro-strati	105.8
.982	79.2	79.5	66.0	N.	.....	.978	78.8	77.4	66.2	N. W.	Cirro-strati	.999	75.5	74.2	66.8	N. W.	Ditto	
30.013	79.8	78.0	65.7	N.	Scatter'd clouds	30.006	78.9	78.0	65.1	N.	Clear	30.028	76.6	75.5	65.0	N.	Ditto	105.8
.920	78.9	78.2	63.0	N.	Clear	.918	77.9	76.7	65.5	N. W.	Ditto	.932	73.6	72.0	60.0	N.	Ditto	
29.987	78.3	77.8	64.2	N.	Ditto	29.982	77.8	76.3	64.0	N. W.	Ditto	.902	73.0	75.3	65.3	N. W.	Ditto	107.0
29.915	82.2	81.4	69.2	.....	.....	29.912	81.1	79.9	69.1	.....	.....	29.926	78.0	76.9	68.8	.....	.....
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	17.6

Meteorological Register kept at the Surveyor General's Office, Calcutta, for the Month of December, 1850.

Date.	Observations made at Sun-rise.					Observations made at apparent noon.					Maximum Pressure observed at 9h. 50m.				
	Temperature.			Wind.	Aspect of Sky.	Bar. F. to 32°	Temperature.			Wind.	Aspect of Sky.	Temperature.			Aspect of Sky.
	Of Mer.	Of Air.	W. Bulb.				Of Mer.	Of Air.	W. Bulb.			Of Mer.	Of Air.	W. Bulb.	
Inches.	°	°	°			Inches.	°	°	°			°	°	°	
1 S	30.067	60.4	58.0	N. W.	Clear	30.099	71.6	72.0	63.7	N. W.	Clear	76.4	76.5	66.5	Clear
2	.023	62.0	60.5	W.	Ditto	.078	69.6	70.0	64.5	N.	Cloudy	76.6	75.8	66.0	Cloudy
3	29.982	62.5	61.0	W.	Ditto	.038	72.0	71.7	65.9	N.	Clear	77.3	77.0	70.0	Clear
4	30.005	64.7	65.5	N.	Cloudy	.077	72.0	72.5	67.9	N.	Cloudy	79.3	78.9	69.0	Ditto
5	29.995	67.0	66.0	S. W.	Ditto	.114	75.0	75.3	68.5	N.	Clear	79.9	79.6	68.8	Cirri
6	30.068	60.0	60.3	N.	Cumuli	.133	71.2	72.0	66.0	N.	Cumuli	77.2	76.3	63.8	Clear
7	.065	59.7	59.0	N.	Clear	.124	69.9	70.5	61.2	N.	Clear	.061	77.0	65.0	Ditto
8 S	.034	61.0	61.4	N. W.	Ditto	.093	72.7	74.0	62.2	N. N. W.	Ditto	.026	77.7	66.9	Ditto
9	.023	61.4	62.5	W.	Ditto	.090	71.0	71.9	65.0	N. N. W.	Ditto	.055	77.2	66.7	Ditto
10	.104	61.0	61.3	N. N. W.	Ditto	.067	73.0	71.8	66.3	S. W.	Ditto	.021	78.0	66.8	Ditto
11	.005	64.5	65.5	S. E.	Foggy	.058	73.5	74.2	70.0	S.	Ditto	29.989	80.8	81.0	Ditto
12	29.992	66.5	67.0	N.	Cumuli	29.983	71.8	72.2	67.8	N.	Cumuli	.942	74.2	67.0	Cumuli
13	30.013	58.7	59.0	N.	Clear	30.086	69.8	70.5	58.4	N.	Clear	30.044	75.2	59.2	Clear
14	.036	56.5	57.5	N. E.	Ditto	.094	66.3	67.0	57.8	N.	Ditto	.055	73.0	59.0	Ditto
15 S	.084	56.7	57.5	N. E.	Ditto	.145	70.2	70.5	63.0	N.	Ditto	.088	74.0	63.8	Ditto
16	.078	56.4	57.0	N.	Ditto	.131	67.2	68.2	62.4	N.	Ditto	.082	75.2	63.7	Ditto
17	.067	57.5	58.0	N.	Ditto	.123	67.0	69.3	61.8	N.	Ditto	.078	74.0	62.7	Ditto
18	.075	57.5	57.8	N.	Ditto	.134	70.0	70.0	63.7	E.	Ditto	.083	75.8	64.4	Ditto
19	.091	58.2	58.8	N. E.	Ditto	.142	71.3	72.2	65.2	E. S. E.	Ditto	.098	77.3	67.0	Ditto
20	.097	63.0	63.8	N. E.	Cloudy	.159	73.2	73.2	69.9	S. W.	Cumulo-strati	.112	78.0	69.6	Ditto
21	.032	59.4	60.0	N.	Clear	.146	68.3	69.4	65.2	N.	Cirro-strati	.098	76.6	63.4	Ditto
22 S	.095	57.5	57.8	N. W.	Ditto	.143	69.2	70.6	64.0	N. E.	Clear	.090	77.0	66.3	Cirro-strati
23	.076	60.0	60.5	N.	Cirro-strati	.138	71.0	72.2	66.1	N. W.	Cirro-strati	.086	77.8	66.7	Ditto
24	.071	58.9	59.3	N.	Clear	.137	68.5	69.0	63.3	N. N. W.	Clear	.087	76.4	63.7	Clear
25	..	..	..	....	....	..	..	..	..	..	....	..	..	..	....
26	.129	56.0	57.0	N. E.	Cirro-strati	.196	67.6	68.9	59.0	E. S. E.	Cirro-strati	.139	75.2	61.3	Cirro-strati
27	.123	55.8	56.0	N. N. E.	Foggy	.183	66.8	68.3	60.6	N. N. W.	Clear	.120	74.7	62.3	Cumuli
28	.148	55.0	55.0	N.	Clear	.219	65.2	66.7	60.4	N. N. W.	Ditto	.152	74.2	62.4	Ditto
29 S	.152	56.5	56.6	N. N. W.	Ditto	.220	68.0	70.0	61.7	N. N. E.	Ditto	.153	75.8	61.3	Clear
30	.141	56.0	56.4	N.	Ditto	.191	67.0	68.5	62.0	N.	Ditto	.127	75.6	64.0	Ditto
31	.070	57.0	58.3	N.	Ditto	.125	66.2	68.2	61.3	N. W.	Ditto	.050	74.7	64.5	Ditto
Mean	30.066	59.5	60.2	....	.....	30.122	69.4	70.7	63.5	....	.....	30.068	75.8	65.0	....

[*Meteorological Register, continued.*]

Observations made at 2hs. 40m.						Minimum Pressure observed at 4 p. m.						Observations made at sun-set.						Maximum and Minimum Thermometer.			Rain Gauges.	
Temperature.			Wind.	Aspect of Sky.	Bar. red. to 32° F.	Temperature.			Wind.	Aspect of Sky.	Bar. red. to 32° F.	Temperature.			Wind.	Aspect of Sky.	Max.	Mean.	Min.	Max. Therm. in sun's rays.	Feet.	
Of Mer.	Of Air.	W. Bulb.				Of Mer.	Of Air.	W. Bulb.				Of Mer.	Of Air.	W. Bulb.							Upper. 4.	Lower. 4.
29.975	77.7	77.3	66.5	N.	Clear	29.970	77.3	76.5	65.3	N.	Clear	29.978	75.0	74.5	68.0	N.	Clear	79.5	69.1	58.7	°	
29.975	78.5	78.0	67.2	N.W.	Ditto	29.970	78.0	76.9	67.0	W.	Ditto	29.978	75.2	74.0	62.5	W.	Ditto	79.3	70.2	61.0	°	
29.975	79.4	78.7	69.0	N.	Ditto	29.970	79.0	77.3	67.7	N.	Ditto	29.978	74.2	73.5	58.0	N.	Scatd. clouds	80.3	70.4	60.5	°	
29.975	81.0	80.0	69.3	N.	Ditto	29.970	81.0	78.8	68.2	N.	Scatter'd clouds	29.978	76.8	76.3	68.0	N.	Cloudy	80.3	70.4	60.5	°	
29.975	80.0	79.2	67.3	W.	Scatter'd clouds	29.970	80.0	78.2	69.9	W.	Cumuli	29.978	76.7	76.0	68.5	N.	Cirro-strati	81.5	73.3	65.0	°	
29.975	80.1	79.5	64.5	N.	Clear	29.970	80.1	79.5	63.2	N.	Clear	29.978	76.0	75.0	62.7	N.	Clear	81.3	69.7	58.0	°	
29.975	79.2	79.0	68.5	N.	Ditto	29.970	79.2	78.0	65.9	N.W.	Ditto	29.978	74.2	72.7	66.5	N.W.	Scatd. clouds	79.8	69.2	58.5	°	
29.975	79.5	78.9	66.5	N.W.	Ditto	29.970	79.5	77.0	65.2	N.W.	Ditto	29.978	75.2	74.8	65.9	N.W.	Clear	80.5	70.0	59.5	°	
29.975	79.9	79.0	66.2	N.W.	Ditto	29.970	79.9	77.9	65.3	N.W.	Ditto	29.978	74.0	74.0	66.3	N.W.	Ditto	80.4	70.1	59.7	°	
29.975	80.8	80.2	64.5	S. W.	Ditto	29.970	80.4	79.0	65.7	N.	Ditto	29.978	77.0	74.5	67.0	W.	Ditto	81.3	70.4	59.5	°	
29.975	80.6	80.2	64.7	S. W.	Ditto	29.970	80.6	78.5	65.2	S. W.	Ditto	29.978	80.0	79.3	71.0	S. W.	Ditto	84.4	73.2	62.0	°	
29.975	80.4	80.2	64.5	S. W.	Cumuli	29.970	80.4	78.5	65.0	N.W.	Ditto	29.978	76.3	74.8	65.0	N.	Scatd. clouds	79.5	72.0	64.5	°	
29.975	80.4	80.2	64.5	N.W.	Clear	29.970	80.4	78.5	65.0	N.W.	Ditto	29.978	76.3	74.8	65.0	N.	Scatd. clouds	79.5	72.0	64.5	°	
29.975	80.4	80.2	64.5	N.W.	Clear	29.970	80.4	78.5	65.0	N.W.	Ditto	29.978	76.3	74.8	65.0	N.	Scatd. clouds	79.5	72.0	64.5	°	
29.975	80.4	80.2	64.5	N.W.	Clear	29.970	80.4	78.5	65.0	N.W.	Ditto	29.978	76.3	74.8	65.0	N.	Scatd. clouds	79.5	72.0	64.5	°	
29.975	80.4	80.2	64.5	N.W.	Clear	29.970	80.4	78.5	65.0	N.W.	Ditto	29.978	76.3	74.8	65.0	N.	Scatd. clouds	79.5	72.0	64.5	°	
29.975	80.4	80.2	64.5	N.W.	Clear	29.970	80.4	78.5	65.0	N.W.	Ditto	29.978	76.3	74.8	65.0	N.	Scatd. clouds	79.5	72.0	64.5	°	
29.975	80.4	80.2	64.5	N.W.	Clear	29.970	80.4	78.5	65.0	N.W.	Ditto	29.978	76.3	74.8	65.0	N.	Scatd. clouds	79.5	72.0	64.5	°	
29.975	80.4	80.2	64.5	N.W.	Clear	29.970	80.4	78.5	65.0	N.W.	Ditto	29.978	76.3	74.8	65.0	N.	Scatd. clouds	79.5	72.0	64.5	°	
29.975	80.4	80.2	64.5	N.W.	Clear	29.970	80.4	78.5	65.0	N.W.	Ditto	29.978	76.3	74.8	65.0	N.	Scatd. clouds	79.5	72.0	64.5	°	
29.975	80.4	80.2	64.5	N.W.	Clear	29.970	80.4	78.5	65.0	N.W.	Ditto	29.978	76.3	74.8	65.0	N.	Scatd. clouds	79.5	72.0	64.5	°	
29.975	80.4	80.2	64.5	N.W.	Clear	29.970	80.4	78.5	65.0	N.W.	Ditto	29.978	76.3	74.8	65.0	N.	Scatd. clouds	79.5	72.0	64.5	°	
29.975	80.4	80.2	64.5	N.W.	Clear	29.970	80.4	78.5	65.0	N.W.	Ditto	29.978	76.3	74.8	65.0	N.	Scatd. clouds	79.5	72.0	64.5	°	
29.975	80.4	80.2	64.5	N.W.	Clear	29.970	80.4	78.5	65.0	N.W.	Ditto	29.978	76.3	74.8	65.0	N.	Scatd. clouds	79.5	72.0	64.5	°	
29.975	80.4	80.2	64.5	N.W.	Clear	29.970	80.4	78.5	65.0	N.W.	Ditto	29.978	76.3	74.8	65.0	N.	Scatd. clouds	79.5	72.0	64.5	°	
29.975	80.4	80.2	64.5	N.W.	Clear	29.970	80.4	78.5	65.0	N.W.	Ditto	29.978	76.3	74.8	65.0	N.	Scatd. clouds	79.5	72.0	64.5	°	
29.975	80.4	80.2	64.5	N.W.	Clear	29.970	80.4	78.5	65.0	N.W.	Ditto	29.978	76.3	74.8	65.0	N.	Scatd. clouds	79.5	72.0	64.5	°	
29.975	80.4	80.2	64.5	N.W.	Clear	29.970	80.4	78.5	65.0	N.W.	Ditto	29.978	76.3	74.8	65.0	N.	Scatd. clouds	79.5	72.0	64.5	°	
29.975	80.4	80.2	64.5	N.W.	Clear	29.970	80.4	78.5	65.0	N.W.	Ditto	29.978	76.3	74.8	65.0	N.	Scatd. clouds	79.5	72.0	64.5	°	
29.975	80.4	80.2	64.5	N.W.	Clear	29.970	80.4	78.5	65.0	N.W.	Ditto	29.978	76.3	74.8	65.0	N.	Scatd. clouds	79.5	72.0	64.5	°	
29.975	80.4	80.2	64.5	N.W.	Clear	29.970	80.4	78.5	65.0	N.W.	Ditto	29.978	76.3	74.8	65.0	N.	Scatd. clouds	79.5	72.0	64.5	°	
29.975	80.4	80.2	64.5	N.W.	Clear	29.970	80.4	78.5	65.0	N.W.	Ditto	29.978	76.3	74.8	65.0	N.	Scatd. clouds	79.5	72.0	64.5	°	
29.975	80.4	80.2	64.5	N.W.	Clear	29.970	80.4	78.5	65.0	N.W.	Ditto	29.978	76.3	74.8	65.0	N.	Scatd. clouds	79.5	72.0	64.5	°	
29.975	80.4	80.2	64.5	N.W.	Clear	29.970	80.4	78.5	65.0	N.W.	Ditto	29.978	76.3	74.8	65.0	N.	Scatd. clouds	79.5	72.0	64.5	°	
29.975	80.4	80.2	64.5	N.W.	Clear	29.970	80.4	78.5	65.0	N.W.	Ditto	29.978	76.3	74.8	65.0	N.	Scatd. clouds	79.5	72.0	64.5	°	
29.975	80.4	80.2	64.5	N.W.	Clear	29.970	80.4	78.5	65.0	N.W.	Ditto	29.978	76.3	74.8	65.0	N.	Scatd. clouds	79.5	72.0	64.5	°	
29.975	80.4	80.2	64.5	N.W.	Clear	29.970	80.4	78.5	65.0	N.W.	Ditto	29.978	76.3	74.8	65.0	N.	Scatd. clouds	79.5	72.0	64.5	°	
29.975	80.4	80.2	64.5	N.W.	Clear	29.970	80.4	78.5	65.0	N.W.	Ditto	29.978	76.3	74.8	65.0	N.	Scatd. clouds	79.5	72.0	64.5	°	
29.975	80.4	80.2	64.5	N.W.	Clear	29.970	80.4	78.5	65.0	N.W.	Ditto	29.978	76.3	74.8	65.0	N.	Scatd. clouds	79.5	72.0	64.5	°	
29.975	80.4	80.2	64.5	N.W.	Clear	29.970	80.4	78.5	65.0	N.W.	Ditto	29.978	76.3	74.8	65.0	N.	Scatd. clouds	79.5	72.0	64.5	°	
29.975	80.4	80.2	64.5	N.W.	Clear	29.970	80.4	78.5	65.0	N.W.	Ditto	29.978	76.3	74.8	65.0	N.	Scatd. clouds	79.5	72.0	64.5	°	
29.975	80.4	80.2	64.5	N.W.	Clear	29.970	80.4	78.5	65.0	N.W.	Ditto	29.978	76.3	74.8	65.0	N.	Scatd. clouds	79.5	72.0	64.5	°	
29.975	80.4	80.2	64.5	N.W.	Clear	29.970	80.4	78.5	65.0	N.W.	Ditto	29.978	76.3	74.8	65.0	N.	Scatd. clouds	79.5	72.0	64.5	°	
29.975	80.4	80.2	64.5	N.W.	Clear	29.970	80.4	78.5	65.0	N.W.	Ditto	29.978	76.3	74.8	65.0	N.	Scatd. clouds	79.5	72.0	64.5	°	
29.975	80.4	80.2	64.5	N.W.	Clear	29.970	80.4	78.5	65.0	N.W.	Ditto	29.978	76.3	74.8	65.0	N.	Scatd. clouds	79.5	72.0	64.5	°	
29.975	80.4	80.2	64.5	N.W.	Clear	29.970	80.4	78.5	65.0	N.W.	Ditto	29.978	76.3	74.8	65.0	N.	Scatd. clouds	79.5	72.0	64.5	°	
29.975	80.4	80.2	64.5	N.W.	Clear	29.970	80.4	78.5	65.0	N.W.	Ditto	29.978	76.3	74.8	65.0	N.	Scatd. clouds	79.5	72.0	64.5	°	
29.975	80.4	80.2	64.5	N.W.	Clear	29.970	80.4	78.5	65.0	N.W.	Ditto	29.978	76.3	74.8	65.0	N.	Scatd. clouds	79.5	72.0	64.5	°	
29.975	80.4	80.2	64.5	N.W.	Clear	29.970	80.4	78.5	65.0	N.W.	Ditto	29.978	76.3	74.8	65.0	N.	Scatd. clouds	79.5	72.0	64.5	°	
29.975	80.4	80.2	64.5	N.W.	Clear	29.970	80.4	78.5	65.0	N.W.	Ditto	29.978	76.3	74.8	65.0	N.	Scatd. clouds	79.5	72.0	64.5	°	
29.975	80.4	80.2	64.5	N.W.	Clear	29.970	80.4	78.5	65.0	N.W.	Ditto	29.978	76.3	74.8	65.0	N.	Scatd. clouds	79.5	72.0	64.5	°	
29.975	80.4	80.2	64.5	N.W.	Clear	29.970	80.4	78.5	65.0	N.W.	Ditto	29.978	76.3	74.8	65.0	N.	Scatd. clouds	79.5	72.0	64.5	°	
29.975	80.4	80.2	64.5	N.W.	Clear	29.970	80.4	78.5	65.0	N.W.	Ditto	29.978	76.3	74.8	65.0	N.	Scatd. clouds	79.5	72.0	64.5	°	
29.975	80.4	80.2	64.5	N.W.	Clear	29.970	80.4	78.5	65.0	N.W.	Ditto	29.978	76.3	74.8	65.0	N.	Scatd. clouds	79.5	72.0	64.5	°	
29.975	80.4	80.2	64.5	N.W.	Clear	29.970	80.4	78.5	65.0	N.W.	Ditto	29.978	76.3	74.8	65.0	N.	Scatd. clouds	79.5	72.0	64.5	°	
29.975	80.4	80.2	64.5	N.W.	Clear	29.970	80.4	78.5	65.0	N.W.	Ditto	29.978	76.3	74.8	65.0	N.	Scatd. clouds	79.5	72.0	64.5	°	
29.975	80.4	80.2	64.5	N.W.	Clear	29.970	80.4	78.5	65.0	N.W.	Ditto	29.978	76.3	74.8	65.0	N.	Scatd. clouds	79.5	72.0	64.5	°	
29.975	80.4	80.2	64.5	N.W.	Clear	29.970	80.4	78.5	65.0	N.W.	Ditto	29.978	76.3	74.8	65.0	N.	Scatd. clouds	79.5	72.0	64.5	°	
29.975	80.4	80.2	64.5	N.W.	Clear	29.970	80.4	78.5	65.0	N.W.	Ditto	29.978	76.3	74.8	65.0	N.	Scatd. clouds	79.5	72.0	64.5	°	
29.975	80.4	80.2	64.5	N.W.	Clear	29.970	80.4	78.5	65.0	N.W.	Ditto	29.978	76.3	74.8	65.0	N.	Scatd. clouds	79.5	72.0	64.5	°	
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29.975	80.4	80.2	64.5	N.W.	Clear	29.970	80.4	78.5	65.0	N.W.	Ditto	29.978	76.3	74.8	65.0	N.	Scatd. clouds	79.5	72.0	64.5	°	
29.975	80.4	80.2																				



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